

SUCCULENTS II

THE NEW ILLUSTRATED DICTIONARY



MAURIZIO SAJEVA
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Maurizio Sajeve
and
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The plants illustrated have been photographed in habitat, in the authors' collections and in the public collections of Kirstenbosch Botanical Garden (RSA), Karoo Botanical Garden (RSA), Orto Botanico di Palermo (Italy). They have also been photographed in the collections of Vivai F.lli Colombo di Casatenovo (Lecco, Italy), Vivai Fiore Verde di Montecchio E. (Reggio Emilia, Italy), Vivaio Botaniké di Baveno (Verbania, Italy).

All the photographs were taken by Pierfranco Costanzo, Daniele Costanzo and Maurizio Sajevo, unless otherwise stated in the text.

We would like to emphasize that we assume all responsibilities for any errors still present in the book despite the help of the above mentioned people.

FOREWORD

When we decided to publish *Succulents: The Illustrated Dictionary* (our first book), we tried to provide a wide choice of illustrations of succulent plants that are normally scattered in several specialized books and journals. We knew it was a difficult task and we received many different reactions from readers. Luckily, most of those reactions were positive and we received nice comments, suggestions and few complaints.

We are aware that there were mistakes and omissions and we naturally take full responsibility for them.

In this second volume, we have tried to supply additional illustrations, either of species not included in the previous *Dictionary* or of different aspects of those plants already illustrated. We imagine that there will be omissions and mistakes here too, for which we would like to apologize in advance.

With regard to the illustrations, the main difference between cacti and the other succulents is that cacti are easier to photograph: the stems and flowers usually fit well into a single shot. With the other succulents, the flowers are sometimes too big compared to the stem and at least two photographs are required to show both parts. In other instances, flowers are too small and a close-up is necessary. Sometimes stems are too thin and long and too far from the main trunk. In some species the young plant is quite different from the adult one. We could go on trying to explain the difficulties that one meets when photographing succulents, but we just ask for your understanding. The ideal book should contain at least three or four illustrations for a single species to show the entire plant: the flower, the juvenile stage, and the differences between cultivated and wild plants. Unfortunately, such a book would need hundreds of pages, thousands of illustrations and a lot of money. In this volume we have tried, with some plants, to present several illustrations of the same species, with others we have tried to show the most important features. In other cases, we have just published what was available from various private or public collections.

We hope that this book will be of interest both to experienced collectors and neophytes. We also hope to receive comments and suggestions, and we would welcome your help in finding any errors.

INTRODUCTION

SUCCULENTS IN HABITAT

The general idea that succulent plants grow in deserts is not strictly correct. By definition a desert is a place where almost nothing can grow, like the Sahara desert or the Gobi desert or the Sand Plains of Australia. It is better to say that succulents can grow in a semi-desert habitat, together with other plants that adopt different strategies to survive water deficit. Succulents have adapted to survive in environments where water is not constantly available, therefore they may grow in habitats where water is only abundant at certain times of the year, or in some restricted areas.

The greatest diversity of habits and families of succulent plants is to be found in the southern part of Africa, where this adaptive strategy has been very successful. Most of the plants illustrated in this book come from that part of the world, and particularly from the Cape Province area. The American continent is the home of several species of succulent plants, but most of them belong to the Cactaceae family which is not included in this book.

A few illustrations can give an idea of the diverse habitats where succulents have their home.



Fig. 1) shows the Namib Desert. *Welwitschia mirabilis* is the only succulent that has adapted to this extreme environment. This species uses the fog that covers the area almost every day and its seeds germinate only during the very rare rains. Low reproductive rate and slow growth are compensated by the lack of competition with other perennial species and a very difficult environment for predators.

Fig. 2) South of Tenerife, rich in succulents plants. Several endemic plants grow in the Canary Islands, and succulents are present with a broad selection of species.

Fig. 3) shows an alpine environment. Here water is usually available and succulents can occupy areas not suitable for other plants. The crevices of rocks exposed to the sun can supply enough soil and the succulence permits conservation of the short water supply.

Fig. 4) shows the tropical forest in Palenque (Mexico). Here succulent plants grow epiphytically and take up water that may have been caught in the branches for a short time. In this condition succulents occupy relatively dry places in a humid habitat.

These few examples show how diverse the habitat of succulents can be and indicate that growth condition may be extremely varied.

SUCCULENTS IN CULTIVATION

Almost every person that becomes interested in growing succulents asks for advice on how to grow them: what type of soil, how much water, what kind of container and so on. That is an impossible task in our opinion. Besides the variability due to the plant's original habitat, there is the other great variable, the habitat of the grower. The authors of this book live in Italy some 1,400 km distance from each other. One lives in Sicily where almost every species of succulent can grow outside all year long, while the other lives in Lombardy where succulents can grow outside for only part of spring and summer. Spring is also variable between the two locations: in Sicily the typical activities of spring can begin in February, while in the northern part of Italy this may be delayed until the end of March.

Of course, those readers with some experience already know what is necessary to grow their plants to their best. We do not expect to give suggestions to those experienced collectors, but we would like to give some advice to the new enthusiasts.

Cultivation of succulents is relatively easy. The temperature must not drop below 8°C for most species, therefore a greenhouse or relocation of the plants to a heated building may be necessary in winter time. South or southwest facing positions are usually preferred to allow a good amount of sunlight to reach the plants, but in southern regions an east facing position will work well too.

When watered, the soil must be saturated but the water must pass through quickly. To achieve this, it is necessary to mix the soil with coarse sand, pumice or other particles. It will depend on the availability *in situ*. In Sicily pumice is easily available in most builders' warehouses, but in other regions it may be easier to find coarse sand. It is advisable to wash the material before mixing it with the soil to avoid the presence of dust that can become very hard after a few waterings. The soil can be chosen depending on availability, but avoid clay soils and pure peat. Make a mix of garden soil, some peat-moss, and sand (or pumice) until the soil has a good structure and drainage.

When choosing pots remember that clay pots allow more air circulation and dry faster, while plastic pots keep humidity for a longer time and lower air circulation. Simply consider the climate where you grow the plants. If you live in a hot country, plastic pots will permit less watering; if you live in a cold country, the use of clay pots may help to control humidity. Keep in mind that both kind of pots are used almost everywhere in the world, and in the end it is a choice made with experience. Water is necessary for the plants to live. Water the plants until you see the water coming out of the drainage holes at the bottom of the pot. Wait until the soil is dry (this will depend on temperature, humidity, size and type of pots) before watering again. Water must be given only in the growing season, and the succulents should be kept dry during their dormant time. When the first sign of new growth is evi-

dent, start watering; at the end of the season growth will slow down until it completely stops. At this point watering must be stopped. This simple rule will keep your plants in good health. From time to time add a very diluted low nitrogen nutrient, only half the suggested dosage. In this way you will give nutrients to your plants without forcing an unnatural growth.

The form of the plant can tell you a lot of information about its requirements. Plants with foliage and vigorous growth usually require more water and nutrients and they will thrive in large containers. Plants with no or very few leaves, with caudex or with a lot of thick spines usually come from areas where water and nutrients are scarce. These plants may be difficult to grow, but to stay on the safe side give them a little water and spend some time getting to know their requirements.

Good luck!

CLASSIFICATION

Succulence has evolved independently in several families of plants. The similar shapes and adaptations found in plants that are distant both from a geographical and phylogenetic point of view are dependent on the same selective pressure: lack of water.

In order to classify a plant, the shape alone is not sufficient, it is also necessary to look at the flowers and fruits. From the time of Linnaeus, taxonomists evolved systems of classification and this evolution is still very active, to the point that sometimes it is difficult to follow all the changes that affect the names of plants. As stated in the first volume, we do not pretend to have found a solution to the chaos affecting the classification of succulent plants. Some help to alleviate the confusion has been provided in the form of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) checklists. The requirement for a standard reference to the names of plants included in the Appendices of CITES prompted the Scientific Authorities to compile checklists for the most commonly traded groups of plants. The following CITES checklists have been published:

CITES Cactaceae Checklist

CITES Cactaceae Checklist (second edition)

The CITES Checklist of Succulent *Euphorbia* Taxa (Euphorbiaceae)

CITES Orchid Checklist Volume 1

CITES Orchid Checklist Volume 2

CITES Bulb Checklist

CONSERVATION AND CITES

The collection of plants in the wild for commercial purposes is still one of the major threats to several species of succulent plants. The CITES convention, signed and ratified by 145 countries as at January 1999, provides rules to prevent the threat to species of fauna and flora due to exploitation for commercial purposes. The aim of the Convention is to allow sustainable use of wildlife so that it is conserved for future generations.

The basic rules of the Convention are simple, but a lack of understanding of them may cause problems to people wishing to export or import CITES-listed species.

CITES monitors and controls the trade across international borders in selected taxa. These taxa are listed in three Appendices:

- Appendix I includes plants threatened with extinction as a result of international trade. Trade in wild-collected plants is prohibited for commercial purposes, but trade in artificially propagated plants is permitted subject to the provision of permits. There are some succulent plants included in this Appendix.
- Appendix II includes plants, which although not currently threatened, may

become so if trade is not regulated. Several succulent plants are listed in this Appendix. Trade is permitted for both wild-collected and artificially propagated plants subject to the provision of permits.

- Appendix III includes plants subject to regulation within the territory of a CITES party for which the co-operation of other parties is needed to prevent or restrict their exploitation. No succulent plants are listed in this Appendix. Trade in Appendix III specimens for both wild and propagated plant material is subject to CITES documents.

The implementation of CITES is the responsibility of each country involved in the trade, the exporting country and the importing country. It is very important to become fully acquainted with the CITES regulations before trading any CITES-listed species. Always contact your CITES Management Authority. Information on CITES authorities in all countries can be obtained from:

The CITES Secretariat
15 chemin des Anémones
case postale 456, 1219 Châtelaine
Geneva - Switzerland

The CITES status has been included for each of the illustrated succulent species in the alphabetical section of the *Dictionary*. A further list of all succulent plants included in the CITES appendices is also provided. However, full CITES documentation should be consulted for information on annotations and exemptions.

SUCCULENT PLANTS INCLUDED IN THE CITES APPENDICES

| Family | Appendix I | Appendix II |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AGAVACEAE | <i>Agave arizonica</i> <i>Agave parviflora</i> <i>Nolina interrata</i> | <i>Agave victoriae-reginae</i> |
| APOCYNACEAE | <i>Pachypodium baronii</i> <i>Pachypodium decaryi</i> | <i>Pachypodium</i> spp. |
| ASCLEPIADACEAE | | <i>Ceropegia</i> spp. <i>Frerea indica</i> |
| BROMELIACEAE | | <i>Tillandsia harrisii</i> <i>Tillandsia kammii</i> <i>Tillandsia kautskyi</i> <i>Tillandsia mauryana</i> <i>Tillandsia sprengeliana</i> <i>Tillandsia sucrei</i> <i>Tillandsia xerographica</i> |
| CACTACEAE | <i>Ariocarpus</i> spp. <i>Astrophytum asterias</i> <i>Aztekium ritteri</i> <i>Coryphantha werdermannii</i> <i>Discocactus</i> spp. <i>Discocactus macdougalii</i> <i>Echinocereus ferreirianus</i> ssp. <i>lindsayi</i> <i>Echinocereus schmollii</i> <i>Escobaria minima</i> <i>Escobaria sneedii</i> <i>Mammillaria pectinifera</i> <i>Mammillaria sotisioides</i> <i>Melocactus conoideus</i> <i>Melocactus deinacanthus</i> <i>Melocactus glaucescens</i> <i>Melocactus paucispinus</i> <i>Obregonia denegrii</i> <i>Pachycereus militaris</i> <i>Pediocactus bradyi</i> <i>Pediocactus knoxeltonii</i> <i>Pediocactus paradinei</i> <i>Pediocactus peeblesianus</i> <i>Pediocactus sileri</i> <i>Pelecypora</i> spp. <i>Sclerocactus brevilhamatus</i> ssp. <i>tobuschii</i> <i>Sclerocactus erectocentrus</i> <i>Sclerocactus glaucus</i> <i>Sclerocactus mariposensis</i> <i>Sclerocactus mesae-verdae</i> <i>Sclerocactus papyracanthus</i> <i>Sclerocactus pubispinus</i> <i>Sclerocactus wrightiae</i> <i>Strombocactus</i> spp. <i>Turbincarpus</i> spp. <i>Uebelmannia</i> spp. | Cactaceae spp. |

| Family | Appendix I | Appendix II |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| CRASSULACEAE | <i>Dudleya stolonifera</i> <i>Dudleya traskiae</i> | |
| DIDIEREACEAE | | Didiereaceae spp. |
| DIOSCOREACEAE | | <i>Dioscorea deltoidea</i> |
| EUPHORBIACEAE | <i>Euphorbia ambovombensis</i> <i>Euphorbia capsaintemariensis</i> <i>Euphorbia cremersii</i> <i>Euphorbia cylindrifolia</i> <i>Euphorbia decaryi</i> <i>Euphorbia francoisii</i> <i>Euphorbia moratii</i> <i>Euphorbia parvicynthophora</i> <i>Euphorbia quartziticola</i> <i>Euphorbia tulearensis</i> | <i>Euphorbia</i> spp. (succulent species) |
| FOUQUIERIACEAE | <i>Fouquieria fasciculata</i> <i>Fouquieria purpusii</i> | <i>Fouquieria columnaris</i> |
| LILIACEAE | <i>Aloe albidia</i> <i>Aloe albiflora</i> <i>Aloe alfredii</i> <i>Aloe bakeri</i> <i>Aloe bellatula</i> <i>Aloe calcairophila</i> <i>Aloe compressa</i> <i>Aloe delphinensis</i> <i>Aloe descoingsii</i> <i>Aloe fragilis</i> <i>Aloe haworthioides</i> <i>Aloe helenae</i> <i>Aloe lacta</i> <i>Aloe parallelifolia</i> <i>Aloe parvula</i> <i>Aloe pillansii</i> <i>Aloe polyphylla</i> <i>Aloe rauhi</i> <i>Aloe suzannae</i> <i>Aloe thornicroftii</i> <i>Aloe versicolor</i> <i>Aloe vossii</i> | <i>Aloe</i> spp. |
| PORTULACACEAE | | <i>Anacampseros</i> spp. <i>Azonia</i> spp. <i>Lewisia cotyledon</i> <i>Lewisia maguirei</i> <i>Lewisia serrata</i> |
| WELWITSCHIACEAE | <i>Welwitschia mirabilis</i> | |

SUCCULENT FAMILIES AND GENERA

Brief descriptions of the families illustrated in the *Dictionary* are given in this section. Those readers wishing to study any of the families or genera in detail will find monographic studies and general works in the 'Further Reading' section. New plants are always found in the wild and new taxonomic studies are often published. Journals specializing in succulent plants provide a very good source of up-to-date information.

AGAVACEAE Endl. (Monocotyledons)

The family of the Agavaceae includes about 18 genera. Plants are stemless, short stemmed or trees. Leaves are fleshy or fibrous and are usually arranged in rosettes. Roots are fibrous and stoloniferous. Inflorescences may attain huge sizes and have several flowers.

Most genera within the Agavaceae are easy to cultivate, and several species are hardy. During the growing season they appreciate plenty of water and their growth may be rather fast. For the bigger species it may be a problem to find suitable containers for indoor cultivation, while in the milder climates they can be grown in the field.

DISTRIBUTION: America, tropical Africa, India, Madagascar and Australia.

Genera illustrated

Agave L.
Cordylina Comm. ex R.Br.
Dasyliirion Zucc.
Dracaena L.
Furcraea Vente
Nolina Michx.
Sansevieria Thunb.
Yucca L.

AMARYLLIDACEAE J.St.Hill. (Monocotyledons)

Bulbous plants with leaves arranged in rosettes or distichous. Inflorescences bear one to several flowers. Few species can be regarded as succulents and the growers usually appreciate the beautiful flowers. Cultivation is relatively easy; water should be provided during the growing season and the bulbs should be left to dry in the dormant season.

DISTRIBUTION: warm temperate and tropical areas around the world.

Genera illustrated

Boophane Herb.
Brunsvigia Heist.
Gethyllis L.
Haemanthus L.

APOCYNACEAE Juss. (Dicotyledons)

Over 215 genera are included in this family. Plants can be herbs, lianas, shrubs or trees and all contain latex. Leaves are simple and veins are parallel. Flowers can be solitary or in clusters and have five petals. The fruit is divided into two follicles.

In cultivation these plants require minimum temperatures above 8°C and should be kept dry. In milder climates most species can be grown outdoors.

DISTRIBUTION: widespread.

Genera illustrated

Adenium Roem. & Schult.
Pachypodium Lindl.
Plumeria L.

ARALIACEAE Juss. (Dicotyledons)

Family with 57 genera and approximately 800 species ranging from lianas to shrubs, trees and epiphytes. Leaves are compound, large and arranged in spirals.

DISTRIBUTION: tropical regions.

Genus illustrated

Cussonia Thunb.

ASCLEPIADACEAE R.Br. (Dicotyledons)

The family contains over 2,500 species of lianas or low shrubs. Leaves are simple and caducous. Flowers have five sepals and five petals and may be very malodorous. Within the succulents, the *Stapeliae* group has pollen grains that adhere together to form waxy pollinia. The fruit is divided into two follicles containing several seeds with terminal tufts of hair.

Cultivation of succulent species of this family requires some attention, as the plants are prone to rot when grown in a humid environment. The caudex when present must not be deep in the soil, but should sit just above it. Some topping with gravel may help to prevent rot.

DISTRIBUTION: widespread.

Genera illustrated

Brachystelma R.Br.
Caralluma R.Br.
Ceropegia L.
Dischidia R.Br.
Durvalia Haw.
Echidnopsis Hook.f.
Fockea Endl.
Hoodia Sweet
Hoya R.Br.
Huernia R.Br.
Huerniopsis N.E.Br.
Orbeopsis L.C.Leach
Pseudolithos P.R.O.Bally
Sarcostemma R.Br.
Stapelia L.
Trichocaulon N.E.Br.
Tridentea Haw.

BEGONIACEAE Agardh. (Dicotyledons)

A family with two genera and about 800 species of succulent herbs or shrubs with thick rhizomes or tubers. Stems are usually succulent, with leaves arranged in spirals.

DISTRIBUTION: tropical and warm regions.

Genus illustrated

Begonia L.

BOMBACACEAE Kunth. (Dicotyledons)

This family contains some 30 genera of large soft wooded trees. Leaves are simple or compound and are covered with hairs or hairy scales. Flowers are large and fruit may be woolly and contain numerous seeds.

DISTRIBUTION: tropical Africa and America.

Genera illustrated

Adansonia L.

Chorisia Humb., Bonpl. & Kunth.

BROMELIACEAE Juss. (Monocotyledons)

This family contains approximately 50 genera of plants either terrestrial or epiphytic. Leaves are basal, usually arranged in rosettes, and may have spiny margins. Flowers are borne in spikes and have coloured bracts.

Most of the species grown in succulent collections are epiphytic and can be grown on dry branches or bark. Water should be sprayed on the plants every day during the hot season.

DISTRIBUTION: tropical America.

Genera illustrated

Aechmea Ruiz & Pav.

Dyckia Schult.f.

BURSERACEAE Kunth. (Dicotyledons)

Family with 20 genera; large trees or shrubs with compound leaves and resinous wood. The few species that are suitable for cultivation require water during the growing season, but should be kept dry during the dormant season.

DISTRIBUTION: southern Africa, tropical and subtropical America.

Genera illustrated

Bursera Jacq.

Commiphora Jacq.

CHENOPODIACEAE Vent. (Dicotyledons)

This family contains 120 genera and about 1,300 species of annual and perennial herbs and shrubs, or sometimes small trees. Stems are usually succulent and leaves are alternate, succulent or reduced. Most species are adapted to semi-desert or salty habitats.

DISTRIBUTION: widespread.

Genera illustrated

Beta L.

Suaeda Dumort

COMMELINACEAE R.Br. (Monocotyledons)

This family includes annual and perennial herbs with leaves either basal or on jointed stems. Succulent species are perennial and the succulence is usually in the leaves or in tuberous roots. The flowers are usually blue, a rarity among succulents. Cultivation of these plants is quite easy as long as they are watered regularly.

DISTRIBUTION: widespread in tropical regions.

Genus illustrated

Tradescantia L.

COMPOSITAE Giseke (Dicotyledons)

A very large family containing annual and perennial plants ranging from herbs to trees and including epiphytic and aquatic species. The inflorescence may bear one to several heads of stemless flowers. The calyx has bristles and scales which remain attached to the seeds to facilitate wind dispersal.

Within such a large family, there is a great variability of growth conditions. Among the succulents the genus *Othonna* is slow growing and requires extra care with watering.

DISTRIBUTION: widespread.

Genera illustrated

Othonna L.

Senecio L.

CONVOLVULACEAE Juss. (Dicotyledons)

A family with plants of very diverse habit, including some parasitic species.

Flowers are campanulate, white or pink.

Few genera are cultivated in succulent collections but they may grow very large. They require plenty of water during the growing season.

DISTRIBUTION: widespread.

Genera illustrated

Ipomoea L.

Jacaratia Rusby

CRASSULACEAE DC. (Dicotyledons)

This family includes over 33 genera and about 1,500 species ranging from annual or perennial herbs to shrubs and small trees with more or less succulent leaves. Plants in this family grow in a wide range of habitats: from deserts to wetlands.

Most species are of easy cultivation and can be propagated by leaf or stem cuttings.

DISTRIBUTION: widespread.

Genera illustrated

Adromischus Lem.

Aeonium Webb & Berthel.

Aichryson Webb & Berthel.

Cotyledon L.

Crassula L.

Dudleya Britton & Rose

Echeveria DC.

Graptopetalum Rose

Greenovia Webb & Berthel.

Kalanchoe Adans.

Lenophyllum Rose

Monanthes Haw.

Orostachys (DC.) Fisch.

Pachyphytum Link, Klotzsch & Otto

Rosularia (DC.) Stapf.

Sedum L.

Sempervivum L.

Tylecodon Toelken

Umbilicus DC.

CUCURBITACEAE Juss. (Dicotyledons)

A family with approximately 120 genera of annual or perennial herbaceous plants, with climbing or trailing habit, usually with tendrils and tuberous root. Leaves are alternate, simply and palmately lobed.

Succulent genera are quite diverse in habit and cultural requirements. It is better to keep them dryish until some confidence has been gained with the particular species.

DISTRIBUTION: tropical and subtropical regions.

Genera illustrated

Iberilla B.D.Greene

Kedrostis Medik.

Momordica L.

Xerosicyos Humbert

DIDIEREACEAE Drake (Dicotyledons)

A family with xerophytic spiny shrubs and small trees, closely related to the Cactaceae family. This family is endemic to Madagascar.

In cultivation these plants require minimum temperatures above 8°C and water only in the growing season.

DISTRIBUTION: Madagascar.

Genera illustrated

Alluaudia Drake

Decaryia Choux.

Didierea Baill.

DIOSCOREACEAE R.Br. (Monocotyledons)

Herbs with twining shoots arising from tubers rich in starch.

DISTRIBUTION: southern Africa, South and Central America

Genus illustrated

Dioscorea L.

EUPHORBIACEAE Juss. (Dicotyledons)

A very large family with approximately 320 genera and over 8,000 species, ranging from annual herbs to large trees. All the Euphorbiaceae contain a milky sap that may be harmful to the touch. The inflorescence is based on a cyathium constituted by an involucre containing one reduced female flower and several male ones. There are protective bracts that can be very showy, and nectaries to attract insects. The capsule containing the seeds explodes at maturity and disperses the seeds to a distance of over 3 m.

The cultivation of these plants is quite easy, but there are some species that may require extra care in watering.

DISTRIBUTION: widespread.

Genera illustrated

Euphorbia L.

Jatropha L.

Monadenium Pax

FOUQUIERIACEAE DC. (Dicotyledons)

A monotypic family with a few species of spiny shrubs or trees to 10 m tall. The genus *Idria* is considered to be a synonym.

DISTRIBUTION: Mexico, southwestern USA.

Genus illustrated

Fouquieria Humb., Bonpl. & Kunth.

GERANIACEAE Juss. (Dicotyledons)

The plants of this family range from herbs to shrubs. Stems are usually jointed and have leaves arranged in spirals. Several species have aromatic oils in glandular hairs.

The succulent species require little water only during the growing season, which for some species is in winter.

DISTRIBUTION: temperate and tropical regions.

Genera illustrated

Pelargonium L'Hér.

Sarcocaulon (DC.) Sweet.

LABIATAE Juss. (Dicotyledons)

This family includes herbaceous plants and shrubs with simple leaves. Several species contain fragrant oils. Among the several species of interest in horticulture only a few are succulent.

DISTRIBUTION: widespread.

Genera illustrated

Acalanthus Mart.

Plectranthus L'Hér.

LEGUMINOSAE Juss. (Dicotyledons)

This very large family contains over 16,000 species with very diverse habit. The Leguminosae are very important as cultivated crops, but only a few are cultivated for succulent collections.

DISTRIBUTION: widespread.

Genus illustrated

Erythrina L.

LILIACEAE Juss. (Monocotyledons)

A large family of herbaceous plants with a few tree-like species. The family has actually been split into several other families (Asphodelaceae, Aloaceae etc...) but we prefer to use Liliaceae in the old broad sense.

Cultivation requirements vary depending on the plant habit and geographical origin.

DISTRIBUTION: widespread.

Genera illustrated

Aloe L.

Astroloba Uitewaal

Bowiea Harv. ex Hook.f.

Bulbine L.

Dipcadi Medik.
Gasteria C.J.Duval
Haworthia C.J.Duval
Massonia Thunb. ex L.
Ornitogalum L.
Scilla L.
Trachyandra J.C.Manning
Veltheimia Gled.

MENISPERMACEAE (Dicotyledons)

Family with about 70 genera of woody or herbaceous vines or lianas. Leaves are alternate and simple, flowers are small.

DISTRIBUTION: tropical and subtropical regions.

Genus illustrated

Tinospora Miers

MESEMBRYANTHEMACEAE Baill. (Dicotyledons)

Over 100 genera and 2,000 species are included in this family. The habit ranges from extremely specialized stemless plants to shrubs or creeping plants, all with succulent leaves. Flowers are usually showy, with several petals. The fruit responds to water and opens to release seeds when conditions are suitable for germination.

Cultivation is easy for shrubby species, while the stemless ones require some skills.

DISTRIBUTION: southern Africa and Mediterranean regions.

Genera illustrated

Aloinopsis Schwantes
Aptenia N.E.Br.
Argyrodema N.E.Br.
Carpobrotus N.E.Br.
Carruanthus Schwantes
Cephalophyllum N.E.Br.
Chasmatophyllum N.E.Br.
Cheiridopsis N.E.Br.
Comicosia N.E.Br.
Conophyllum Schwantes
Conophytum N.E.Br.
Cylindrophyllum Schwantes
Delosperma N.E.Br.
Dinterantus Schwantes
Drosanthemum Schwantes
Faucaria Schwantes
Fenestraria N.E.Br.
Fritikia N.E.Br.
Gibbaeum Haw.
Glottiphyllum Haw.
Jordaniella H.E.K.Hartmann
Lampranthus N.E.Br.
Lithops N.E.Br.
Malephora N.E.Br.
Mesembryanthemum L.
Mitrophyllum Schwantes
Montilaria Schwantes
Muiria N.E.Br.
Nananthus N.E.Br.
Oophytum N.E.Br.

Orthopterum L.Bolus
Oscularia Schwantes
Pleiospilos Dinter & Schwantes
Psilocaulon N.E.Br.
Rabiea N.E.Br.
Rhinephyllum N.E.Br.
Ruschia Schwantes
Schlechteranthus Schwantes
Sphalmanthus N.E.Br.
Tanguana H.E.K.Hartmann & Liede
Titanopsis Schwantes
Trichodiadema Schwantes

MORACEAE Link (Dicotyledons)

There are more than 50 genera and over 1,200 species of very diverse habit, ranging from herbaceous plants to large trees, usually having a milky latex. Flowers are small and grouped in inflorescences with thickened axes forming an invaginated receptacle. Most species are wind pollinated while others are pollinated by insects.

DISTRIBUTION: tropical and temperate regions.

Genus illustrated

Dorstenia L.

MORINGACEAE Dumort. (Dicotyledons)

A monotypic family of deciduous, succulent trees with large alternate leaves.

DISTRIBUTION: Africa, Arabia, India, Madagascar.

Genus illustrated

Moringa Adans.

OXALIDACEAE R.Br. (Dicotyledons)

This family includes herbs with tubers or small trees. Leaves are trilobed and the fruits are capsules.

DISTRIBUTION: tropical and temperate regions.

Genus illustrated

Oxalis L.

PASSIFLORACEAE Juss. (Dicotyledons)

Plants with very diverse habit ranging from lianas, shrubs or trees with lobed leaves.

DISTRIBUTION: tropical and temperate regions.

Genus illustrated

Adenia Forssk.

PEDALIACEAE R.Br. (Dicotyledons)

Family including herbs and shrubs with opposite hairy leaves and campanulate flowers. The fruits are capsules often armed with spines or prickles.

DISTRIBUTION: temperate and warm regions.

Genera illustrated

Pterodiscus Hook.

Uncarina Stapf.

PIPERACEAE G.Agardh (Dicotyledons)

A family of herbaceous plants and small trees, many of which are aromatic. Leaves are simple and flowers are small.

DISTRIBUTION: tropical regions.

Genus illustrated

Peperomia Ruiz & Pav.

PORTULACACEAE Juss. (Dicotyledons)

A family with over 20 genera and 400 species of herbaceous plants and shrubs. Leaves are succulent, entire and often bear long hairs at their base. Flowers are small and can be very showy.

DISTRIBUTION: tropical and temperate regions.

Genera illustrated

Anacampseros L.

Avonia (Mey. ex Fenzl) G.D.Rowley

Ceraria Pearson & Stephens.

Portulaca L.

Portulacaria Jacq.

Talinum Adans.

RUBIACEAE Juss. (Dicotyledons)

This large family includes lianas, shrubs and trees, but few are of interest to succulent growers. Some species have large tubers with a series of cavities inhabited by ants.

DISTRIBUTION: Africa, Asia and Europe.

Genus illustrated

Myrmecodia Jack

SOLANACEAE Juss.

A large family with 90 genera and over 2,600 species of diverse habit including herbs, lianas, shrubs and trees with prickles and hairs. Leaves are simple or lobed, arranged in spirals. Several species are edible.

DISTRIBUTION: widespread.

Genus illustrated

Lycium L.

VITACEAE Juss. (Dicotyledons)

A family with approximately 12 genera and 700 species ranging from lianas to small trees. The two genera illustrated in this *Dictionary* are the only ones of interest to succulent collectors.

DISTRIBUTION: widespread in tropical regions.

Genera illustrated

Cissus L.

Cyphostemma Alston

WELWITSCHIACEAE Markgr. (Gymnosperms)

A monotypic family belonging to the Gymnosperms. It was considered to be pollinated by wind dispersal, but investigations (Wetschnig & Debisch, 1999) have indicated that at least 6 species of flies and other insects are involved in pollination.

DISTRIBUTION: Angola and Namibia.

Genus illustrated

Welwitschia Hook.f.

ZYGOPHYLLACEAE

A family with some 25 genera of herbs or shrubs. Stems are usually jointed at nodes, leaves are opposite, pinnately compound.

DISTRIBUTION: tropical regions.

Genus illustrated

Zygophyllum L.

USING THE DICTIONARY

Name of the author who described the species, abbreviated according to the accepted international standard (Brummit & Powell, 1992). Where the original name has been changed, the name of the author who originally described the species is in brackets and is followed by the author who published the new name.

Name of variety, subspecies, forma, where present, are in **bold**, and are followed by the name of the author. In the case of cultivar, the name of the creator is given. For some undescribed taxa, there may be a code number that denotes the reference number of the plant.

Genus and species

2308 ***Aloe greatheadii* Schönland var. *davyana* Glen & D.S.Hardy**

LILIACEAE ← The family to which the taxon belongs

Spreading rosette; leaves lanceolate, shiny green; inflorescences 2, to 150 cm tall, branched; flowers pale pink to bright red. ← Description of the species

Aloe davyana Schönland ← Other name in use

South Africa (Free State, Northern Province), Swaziland

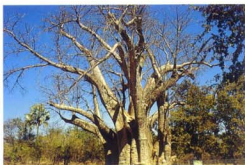
CITES App. II

Authors' reference number

Distribution of the species

Status of the species under CITES (up-dated as at July 1997)
App. I = species listed in Appendix I
App. II = species listed in Appendix II

**COLOUR
ILLUSTRATIONS**

**Adansonia digitata** L.

BOMBACACEAE

Deciduous tree, to 20 m and over, massive trunk to 10 m in diameter; branches relatively short; leaves variable, simple to 7-digitate; flowers white, opening at night, fruits woody. Plant photographed in habitat.

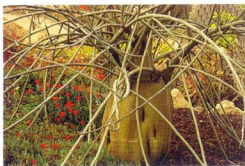
Sub-Saharan Africa

**Adansonia grandidieri** Baill.

BOMBACACEAE

Stem to 30 m tall and 7 m in diameter with reddish bark; leaves bluish-green, hairy, digitate, deciduous; flowers white. Plant photographed in habitat by Paolo Ormas.

Madagascar

**Adenia fruticosa** Burt Davy

PASSIFLORACEAE

Large caudex to 1 m tall and 50 cm in diameter; several grey-brown branches in the upper part of stems; leaves roundish-ovate, deciduous; flowers yellowish. Adult specimen.

South Africa (Transvaal)

**Adenia fruticosa**

Burt Davy

PASSIFLORACEAE

Young specimen.

**Adenia pechuelii**

Engl. & Prantl

PASSIFLORACEAE

Caudex fleshy, to 50 cm in diameter and to 1 m tall, with several branches; leaves lanceolate, caducous; inflorescence small, flowers pale green to yellow.

Echinanthus pechuelii

Engl.

Namibia

**Adenia venenata** Forssk.

PASSIFLORACEAE

Semi succulent plant, tree-like with thin pendent branch. The plant illustrated is a young specimen.

Arabia, East Africa



Adenium obesum
(Forssk.) Roem.
& Schult.

APOCYNACEAE

Shrubs to 2 m tall, caudex thick and many short branches; leaves at ends of branches; flowers pink. Plant photographed in habitat.

Kenya, Tanzania,
Zimbabwe



Adenium obesum
(Forssk.) Roem.
& Schult. ssp.
bohemianum

(Schinz) G.D.Rowley
APOCYNACEAE
A mature specimen.



Adenium obesum
(Forssk.) Roem.
& Schult.

APOCYNACEAE
The flowers.



Adromischus alveolatus Hutchison

CRASSULACEAE

Tuberous root, stem 2-3 cm long; leaves 3-4 cm long, 2 cm wide, grey-green to yellowish green, variable in colour; inflorescence to 17 cm tall. Considered a form of *A. marianae* var. *antillarvatum*.

South Africa (Cape Province)



Adenium obesum (Forssk.) Roem. & Schult. ssp.
bohemianum (Schinz) G.D. Rowley

APOCYNACEAE

This subspecies has pink to pink-purple flowers with dark throat.

Angola, Namibia



Adromischus cooperi A.Berger

CRASSULACEAE

Stems erect, much branched, to 10 cm tall; leaves green to grey-green with or without darker or purple spots, 5-8 cm long; inflorescence to 40 cm long; flowers pale pink.

Adromischus cuneatus V.Poelln., *A. halesuensis* Uitew., *A. festinus* C.A.Smith, South Africa (Cape Province)

Note - According to Pilbeam plants cultivated with the name *A. halesuensis*, like the one illustrated here, do not match well with the species.



Adromischus cristatus Lem.

CRASSULACEAE

Stems short, erect, much branched, covered with aerial roots; leaves 2-4 cm long, convex on both sides, green, covered with soft hairs; inflorescence to 2 cm long; flowers whitish-red or grey-green with pink edges.

South Africa (Cape Province)



Adromischus cristatus Lem. var. *zeyeri* (Harv.) Tolken

CRASSULACEAE

Variety with stems lacking aerial roots; inflorescence and flowers with glandular hairs.

South Africa (Cape Province)



Adromischus fallax Tolken

CRASSULACEAE

Stems decumbent to 20 cm long, little branched; leaves to 5 cm long, convex on the upper surface, convex below; inflorescence to 30 cm long; flowers greenish. Photograph by Annarosa Nicola.

South Africa (Cape Province)



Adromischus filicaulis (Eckl. & Zeyh.) C.A.Sm.

CRASSULACEAE

Prostrate to ascending stems to 35 cm long, branching; leaves 2-8 cm long, lanceolate to oblong, green to grey-green with dark purple spots; inflorescence to 35 cm tall; flowers yellow-green with mauve tinged lobes.

Namibia, South Africa (Cape Province)



Adromischus filicaulis (Eckl. & Zeyh.) C.A.Sm.

CRASSULACEAE

A well grown specimen. Photograph by Annarosa Nicola.



Adromischus filicaulis (Eckl. & Zeyh.) C.A.Sm. ssp. *marlothii* (Schönl.) Tolken

CRASSULACEAE

Subspecies with thicker root, flaking bark and leaves rarely purple spotted.

South Africa (Little Karoo)



Adromischus kubusensis Uitewal

CRASSULACEAE

Stems 8-10 cm tall, reddish-brown, coated with wax; leaves green, becoming pruinose with age, erect, club-shaped, tapering at the end; flowers purple.

South Africa (Cape Province)



Adromischus marianae (Marloth) A.Berger var. **immaculatus** Uitewal

CRASSULACEAE

Small plant, much branched; leaves variable in size and shape, usually elliptic, 2-5 cm long, verrucose, without purple spots; flowers pale pink.

South Africa (Cape Province)



Adromischus marianae (Marloth) A.Berger var. **immaculatus** Uitewal

CRASSULACEAE

Flowers.



Adromischus marianae (Marloth) Berger var. **immaculatus** Uitewal

CRASSULACEAE

Another form of this very variable subspecies.



Adromischus montium-klinghardtii (Dinter) A.Berger

CRASSULACEAE

Erect stems to 20 cm tall; leaves obovate to orbicular 1.5-3 cm long, 1.2-2 cm wide; grey-green to greyish-brown; flowers white to pale yellow.

Namibia



Adromischus roaneanus Uitewal

CRASSULACEAE

Erect stems, freely branching; leaves grey-green, 3 cm long with numerous waxy markings; flowers light green with pink tips.

South Africa (Cape Province)

2006



Adromischus rotundifolius
(Haw.) C.A.Sm.

CRASSULACEAE
Suberect or decumbent branches to 20 cm long; leaves oblanceolate, 1.5-2.5 cm long, 1-2 cm wide, grey-green with flaking wax; flowers white tinged with pink. Reputedly a synonym of *A. hemisphaericus* (L.) Lem. South Africa (Cape Province)

2010



Adromischus schuldianus (Poeelln.) H.E.Moore ssp. *juttiae* (Poeelln.) Toelken

CRASSULACEAE
Dwarf shrub with many branches to 7 cm tall; leaves roundish or elongate, 2-4 cm long, green with numerous waxy spots; inflorescence 10 cm long; flowers green to red-brown. *Adromischus juttiae* V.Poeelln. Namibia

2008



Adromischus sphenophyllus
C.A.Sm.

CRASSULACEAE
Dwarf shrub; leaves 5-10 cm long, 3.5-4.5 cm wide, grey-green, with cartilaginous margin and short tip; flowers pale pink. South Africa (Cape Province)

2004



Adromischus subdistichus Mekin ex Bruyns

CRASSULACEAE
Low shrub branched from the base; leaves 1.2-2.7 cm long and 1-2.2 cm wide; flowers pink. South Africa (Cape Province)

2010



Adromischus triflorus
(L.f.) A.Berger

CRASSULACEAE
Stems to 10 cm tall with few branches at the base; leaves convex on both sides, pale green with waxy spots; inflorescence to 35 cm; flowers pale pink. Plant photographed in habitat. South Africa (Cape Province)

2008



Aechmea lindeni E.Morren ex K.Koch

BROMELIACEAE
Leaves to 60 cm long, 4-5 cm wide, green, turning brown at tips; inflorescence on scape 40-50 cm long, fast withering; flowers with red bracts and yellow petals, fast withering. Brazil



Aeolanthus subcaulis Hua & Briq. ex Briq.

LABIATAE

Small plant; underground caudex with short aerial stems; leaves green, hairy; flowers inconspicuous.

Southern Africa

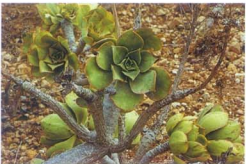


Aeonium arboreum var. *atropurpureum*
(W.A.Nicholson) A.Berger

CRASSULACEAE

Stems erect, to 1 m tall with dense rosettes 20 cm diameter, leaves dark purple (light green in the type species); inflorescence to 30 cm tall; flowers yellow.

Morocco, Canary Islands, naturalized in several Mediterranean regions



Aeonium balsamiferum Webb & Berthel.

CRASSULACEAE

Shrubs with strong balsamiferous odour, to 1.5 m tall; branches brown to greyish-brown; rosettes 7-18 cm in diameter; leaves 5-6 cm long, 2.5-3.5 cm wide, greyish-green with brownish stripes; flowers yellow.

Canary Islands (Lanzarote, Fuerteventura)



Aeonium canariense (L.) Webb & Berthel.

CRASSULACEAE

Short stems with offsetting rosettes to 50 cm in diameter; leaves green, covered with hairs; flowers pale yellow. Plant photographed in habitat. Canary Islands (Tenerife)



Aeonium canariense × *cuneatum*

CRASSULACEAE

A natural hybrid with intermediate characters between the parental species.

Canary Islands (Tenerife)



Aeonium castello-paivae Bolle

CRASSULACEAE

Stems freely branching with rosettes to 10 cm in diameter; leaves glaucous-green, with red margins in older ones; inflorescence sticky; flowers greenish-white.

Canary Islands (Gomera)

3072



Aeonium cuneatum Webb & Berthel.

CRASSULACEAE

Short stem with large rosette; leaves green-glaucous, erect, with mucronate apex and ciliate margins; inflorescence to 1 m tall, flowers yellow. Plant photographed in habitat. Canary Islands (Tenerife)

3073

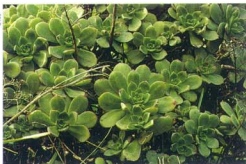


Aeonium goochiae Webb & Berthel.

CRASSULACEAE

Subshrub to 40 cm tall; branches sticky; leaf rosettes 3-12 cm in diameter, leaves pale green to yellow-green, occasionally tinged with red, viscid; flowers pale yellow with central portion pink. Canary Islands (Palma)

3136



Aeonium haworthii (Salm-Dyck) Webb & Berthel.

CRASSULACEAE

Bush to 60 cm tall, freely branching; numerous rosettes 6-8 cm in diameter; leaves bluish-green with red-brown cartilaginous teeth; flowers pale yellow flushed with rose. Plant photographed in habitat. Canary Islands (Tenerife)

3137



Aeonium holochrysum Webb & Berthel.

CRASSULACEAE

Shrub, stems to 1 m tall; leaves 15-25 cm long, arranged in rosettes, yellowish-green with brown-red stripes when grown in full sun, hairy; inflorescence to 1 m tall; flowers yellow. Plant photographed in habitat. Canary Islands (Tenerife, Gomera, La Palma, Hierro)

3138



Aeonium lancerottense Praeger

CRASSULACEAE

Shrub to 60 cm tall, freely branching; branches pale brown to silver; leaves in tight rosettes of 10-18 cm in diameter, pale green, red margined in full sun, to 8 cm long and 4 cm wide; flowers whitish-pink. Photograph by Roberto Mangani. Canary Islands (Lanzarote)

3137



Aeonium nobile Praeger

CRASSULACEAE

Short stems, unbranched, leaves 20-30 cm long, yellow-green, arranged in rosettes, ciliate margins, viscid when young; inflorescence 50 cm tall, flowers red. A young plant photographed in habitat. Canary Islands (La Palma)



Aeonium palmense Webb & Berthel.

CRASSULACEAE

Rosettes cup-shaped; leaves hairy, often with portions of margin strongly undulate; flowers yellow-green. Reputedly a subspecies of *A. canariense* (L.) Webb & Berthel

Canary Islands (Hiero, La Palma)



Aeonium percarneum (Murray) J.Pitard & L.Proust

CRASSULACEAE

Shrub to 1.5 m tall; rosettes 8-20 cm in diameter; leaves 8-10 cm long, 4 cm wide, dark green or glaucous to purple in full sun, red edged; flowers whitish, median portion pink variegated.

Canary Islands (Gran Canaria)



Aeonium sedifolium (Webb ex Bolle) A.Pit. & Proust

CRASSULACEAE

Bushes to 15 cm tall; leaves arranged in rosettes, green to yellowish-green with red stripes; flowers yellow.

Canary Islands (La Palma, Tenerife)



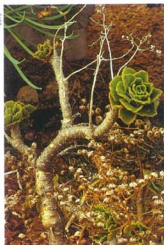
Aeonium simsii

(Sweet) Stearn

CRASSULACEAE

Rosettes forming low clumps; leaves green with reddish lines; inflorescence 15-20 cm tall; flowers yellow. Plant photographed in habitat.

Aeonium caespitosum (C.Sm.) Webb & Berthel.
Canary Islands (Gran Canaria)



Aeonium smithii

(Sims) Webb

& Berthel.

CRASSULACEAE

Branched stems to 60 cm long, covered with white hairs; leaves green with reddish lines, arranged in rosettes 10 cm in diameter; flowers yellow. Plant photographed in habitat.

Canary Islands (Tenerife)



Aeonium spatulatum (Hornem.) Praeger

CRASSULACEAE

Branches to 60 cm tall with small rosettes; leaves sticky 3-4 cm long, green marked with brown stripes, cartilaginous margins, flowers yellow. Plant photographed in habitat.

Canary Islands (Gran Canaria, Gomera, Hierro, La Palma, Tenerife)



Aeonium tabulaeforme (Haw.) Webb & Berthel.

CRASSULACEAE

Large flat solitary rosettes to 50 cm in diameter; leaves green; inflorescence branching to 60 cm tall; flowers yellow. Rosette dies after flowering. *Aeonium heretofolium* Bolle, *A. macrosepium* Webb
Canary Islands (Tenerife)



Aeonium tabulaeforme (Haw.) Webb & Berthel.

CRASSULACEAE

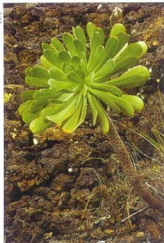
Plant photographed in habitat.
Canary Islands (Tenerife)



Aeonium undulatum
Webb & Berthel.

CRASSULACEAE

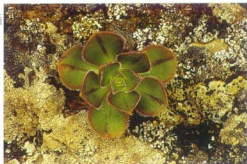
Shrubs to 2 m tall; branches arise from near or below ground; leaf rosettes with centre flattened, 10-30 cm in diameter; leaves 6-18 cm long, 3-5 cm wide, green, occasionally variegated with brown lines; flowers yellow.
Canary Islands (Gran Canaria)



Aeonium urbicum
Webb & Berthel.

CRASSULACEAE

Unbranched stems to 1 m tall; leaves oblong, arranged in rosettes to 25 cm in diameter; flowers greenish-white borne in large pyramids. Plant photographed in habitat.
Canary Islands (Tenerife)



Aeonium urbicum Webb & Berthel.

CRASSULACEAE

A very young specimen photographed in habitat.



Aeonium virgineum Webb & Berthel.

CRASSULACEAE

Rosettes to 25 cm in diameter; leaves hairy, green with reddish or yellowish fringe; flowers green-yellow. Reputedly a subspecies of *A. canariense* (L.) Webb & Berthel.
Canary Islands (Gran Canaria)



Agave angustifolia Haw.

AGAVACEAE

Offsetting stems to 40 cm long; leaves variable in size 50-90 cm, light green to grey-green, with pale margins armed with teeth and 1-2 cm long terminal spine; inflorescence 3-5 m tall; flowers green to yellow. Costa Rica, Mexico



Agave arizonica Gentry & J.H.Weber

AGAVACEAE

Rosette 40 cm in diameter and to 30 cm tall; leaves to 25 cm long, widening in the middle, dark green, reddish-brown or grey margins; inflorescence 3-4 m tall; flowers pale yellow. Photograph by Gaetano Palisano. USA (Arizona)

CITES App. I



Agave atrovirens Karw.

AGAVACEAE

Rosettes to 4 m in diameter; leaves 1.5-4 m long, to 30 cm and over wide at base, green to light glaucous or glaucous variegated, armed with brown teeth and terminal spine 3-5 cm long; inflorescence to 12 m tall; flowers yellowish. Mexico



Agave atrovirens Karw.

AGAVACEAE

The tall inflorescence.



Agave avellanidens Trel.

AGAVACEAE

Rosettes with smooth leaves to 60 cm long, marginal teeth and grey terminal spine; inflorescence 4-6 m tall; flowers pale yellow. Mexico



Agave celsii var. **albicans** (Jacobi) Gentry

AGAVACEAE

Rosettes of pale green, undulate leaves to 70 cm long, armed with 3 mm long teeth and brown terminal spine 2 cm long; inflorescence 2-3 m tall. *Agave mitis* Jacobi. Mexico



Agave cv.
AGAVACEAE
A dwarf variegated culti-
var.
Garden origin



Agave ensifera Jacobi

AGAVACEAE
Caespitose rosettes; leaves to 60 cm long, strongly convex, smooth, dark green, margins with a grey border and curved teeth; inflorescence 2-3 m tall; light green to yellowish.
Garden origin



Agave filifera Salm-Dyck

AGAVACEAE
Stemless rosettes to 65 cm in diameter, with lateral shoots; leaves numerous, to 25 cm long and 3 cm wide, shiny green with white lines and filiform margins; inflorescence to 3 m tall; flowers greenish-yellow.
Agave filamentosus Salm-Dyck
Mexico



Agave flexispina Trel.

AGAVACEAE
Rosettes to 70 cm in diameter; leaves 15-30 cm long, glaucous to yellowish-green, undulate margins armed with 5-10 mm teeth; inflorescence 2-3 m tall; flowers greenish-yellow.
Mexico



Agave fourcroydes Lem.

AGAVACEAE
Stem to 170 cm tall and 25 cm in diameter; leaves to 180 cm long with dark-brown teeth on the margins and black terminal spine to 3 cm long; inflorescence 5-6 m tall; flowers greenish-yellow.
Agave rigida var. *elongata* Bak
Mexico



Agave ghiesbretii K.Koch

AGAVACEAE
Offsetting rosettes; leaves grey-green to dark green, to 40 cm long, strongly armed; inflorescence 3 m tall; flowers greenish-brown to purplish.
Guatemala, Mexico



Agave henriquesii Baker

AGAVACEAE

Simple rosettes; leaves to 100 cm long, rigid, green to glossy green, margins with horny edge and irregular teeth, brown terminal spine 3-4 cm long; inflorescence to 3 m tall.

Mexico



Agave horrida Lem. ex Jacobi

AGAVACEAE

Rosettes strongly armed, solitary; leaves numerous, dark green to yellow-green, teeth 1.5 cm long, grey; terminal spine to 4 cm long; grey with darker tip; inflorescence 2.5 m tall.

Mexico



Agave leguayana
Baker

AGAVACEAE

A doubtful species, grown at the Botanical Garden of Palermo. Could be a variety of *A. glaucocephala*, with darker, shorter leaves. Unknown, probably of garden origin.



Agave longispala
Tod.

AGAVACEAE

Stemless rosette; leaves grey-green, terminal spine black-brown, 2-3 cm long; inflorescence 2-4 m tall; flowers yellow. The validity of this species is doubtful.

Probably Mexico



Agave macrocantha Zucc.

AGAVACEAE

Rosettes stemless or short-stemmed, leaves to 55 cm long, terminal spine 3 cm long; inflorescence to 3 m tall; flowers numerous, reddish, flushed with grey.

Mexico (Tehuacán, Oaxaca)



Agave macrocantha Zucc.

AGAVACEAE

The plant illustrated here is the form «compacta», with shorter leaves and more compact habit.



Agave macroculmis
Tod.

AGAVACEAE
Short stems; leaves to 90 cm long and 15-25 cm wide, widest at base, dark green to light green, coriaceous margins with teeth 1 cm long, brown to greyish; terminal spine 4-7 cm long, dark brown to greyish; inflorescence to 5 m tall; flowers yellow.
Mexico



Agave multifilifera Gentry

AGAVACEAE
Single stems, 70-100 cm tall; leaves arranged in rosettes, green, to 60 cm long, margins finely filiferous (sometimes non-filiferous) and terminal spine greyish, to 7 mm long; inflorescence 4-6 m tall; flowers greenish, flushed with red.
Mexico



Agave maculosa (Rose) Hook.

AGAVACEAE
Offsetting rosette, forming large mats; leaves herbaceous, to 30 cm long, grey-green with brown markings and cartilaginous teeth; inflorescence to 1 m tall; flowers greenish-white, scented.
USA (Texas)



Agave ochauui Gentry

AGAVACEAE
Stems to 50 cm tall with leaves arranged in rosette; leaves green, erect to ascending to 50 cm long, margins lined, border reddish-brown, terminal spine 1-2 cm long, grey; inflorescence to 3 m tall; flowers yellow.
Mexico



Agave mckelveyana Gentry

AGAVACEAE
Rosettes single or offsetting, to 40 cm tall; leaves 20-35 cm long and 3-5 cm wide, light glaucous green or yellowish, margins with greyish-red tipped teeth; inflorescence to 3 m tall; flowers yellow.
USA (Arizona)



Agave pelona Gentry

AGAVACEAE
Rosettes dark green to purplish, shiny, to 80 cm in diameter; leaves toothless, to 50 cm long, terminal spine 4-7 cm long; inflorescence 3 m tall; flowers dark red.
Mexico



Agave polyacantha Haw.

AGAVACEAE

Rosettes 100-150 cm in diameter; leaves to 65 cm long, ascending to recurving, green or yellow-green, armed with closely-spaced brown teeth and 2-3 cm long terminal spine; inflorescence 3 m tall; flowers reddish. *A. polyacantha* Trelease.

Mexico



Agave potatorum Zucc.

AGAVACEAE

Rosette with 30-80 leaves glaucous green to white, 30 cm long and 11 cm wide at base, armed with sharp spines and terminal spine to 4 cm long; inflorescence 3-6 m tall; flowers light green to yellowish. The plant illustrated here is a horticultural form with a dwarf habit.

A. sandersii Lem., *A. scalyonis* Karw., *Agave cresslaffetii* Lem. Mexico



Agave pumila De Smet ex Baker.

AGAVACEAE

In the juvenile stage, persisting to 12 years, rosettes are 3-4 cm in diameter with 5-8 short thick leaves. Inflorescence unknown. When cultivated in the ground, the plants lose the dwarf habit. It could be a hybrid of *A. aculeifolia* Torr. Photograph by Gaetano Palisano.

Mexico



Agave ragusae
Terracciano

AGAVACEAE

Offset rosette to 1.5 m tall; leaves to 80 cm long and 30 cm wide at base, bright green, margins armed with dark brown teeth; terminal spine to 8 cm long, dark brown to black; inflorescence 7-8 m tall; flowers greenish-yellow. Probably a horticultural variety of *A. salmiana*. Possibly garden origin



Agave schottii Engelm.

AGAVACEAE

Offset rosettes; leaves 20-30 cm long, green, margins with horny edges, terminal spine 1 cm long, brown; inflorescence 1.5-2 m tall, flowers light-yellow. Young specimen.

USA (Arizona)



Agave shawii Engelm.

AGAVACEAE

Rosettes single or caespitose with stems to 2 m long, leaves glossy to dark green, to 50 cm long, coriaceous margins dark reddish-brown to gray; teeth variable in shape and size; inflorescence to 4 m tall; flowers yellow to reddish.

Mexico

S412

**Agave sp.**

AGAVACEAE

An unidentified species from Mexico (San Luis Potosí); leaves glaucous-green, striped brownish; margins toothed; flowers not seen. Photographed in habitat by Alessandro Mosco.

Mexico

S413

**Agave stricta** Salm-Dyck

AGAVACEAE

Spherical rosette, forming a branched thick stem with many leaves about 35 cm long, thick at the base, then narrowing with 2 cm long terminal spine; inflorescence 2 m tall. The photograph shows a dwarf hybrid with shorter and wider leaves.

Mexico (Tehuacán)

S418

**Agave tequilana** Weber.

AGAVACEAE

Rosettes to 1.8 m tall, with short stems to 50 cm, leaves glaucous-bluish to grey-green, to 1.5 m long with 3-6 mm long teeth and 2 cm terminal spine; inflorescence 5-7 m tall; flowers green.

Mexico

S415

**Agave titanota** Gentry

AGAVACEAE

Rosettes single or offset; leaves glaucous-white, to 55 cm long, corneous margins, variable teeth and 4 cm long terminal spine; inflorescence 3 m tall; flowers yellow.

Mexico

S417

**Agave titanota**

Gentry

AGAVACEAE

A young specimen. Photograph by Roberto Mangani.

Mexico

S416

**Agave toumeyana** Trel. var. *bella* (Breitung) Gentry

AGAVACEAE

Small rosette with 100 or more (in adult specimens) leaves, filiferous, 10-20 cm long, light green, denticulate margins on lower half; inflorescence 1-2 m tall, flowers greenish.

USA (Arizona)



Agave victoriae-reginae T.Moore.

AGAVACEAE

Solitary rosettes, spherical; leaves numerous, 10-15 cm long, green with white margins and terminal spine 2 mm long; inflorescence to 4 m tall; flowers varicoloured, often red tinged.

Mexico

CITES App. II



Agave victoriae-reginae T.Moore

AGAVACEAE

The plant illustrated here is the form «compacta». Photograph by Charles H. Everson.

Mexico

CITES App. II



Agave victoriae-reginae T.Moore

AGAVACEAE

A variegated form.
Horticultural origin

CITES App. II



Aichryson laxum (Haw.) Bramwell

CRASSULACEAE

Stems 30-50 cm long, succulent, green or reddish, covered with short hairs; leaves hairy, arranged in rosettes at the tip of stems; inflorescence branched with small flowers. Plant photographed in habitat.

Canary Islands (Tenerife, Gran Canaria, La Palma, Hierro, Gomera)



Aichryson x domesticum f. *foliis variegatis* Praeger

CRASSULACEAE

Subshrub small, hairy, 15-30 cm tall, much branched; leaves alternate, hairy, 2 cm long, 1 cm wide, dark green with yellowish-white margins; flowers golden yellow.

Canary Islands



Alluaudia procera

Drake

DIPSACACEAE

Tree 3-15 m tall, armed with conical thorns; main stem with few branches; leaves ovate, to 2.5 cm long and 5-10 mm wide; inflorescence crowded at end of stems; flowers very small.

Madagascar

CITES App. II

**Aloe aculeata** Pole-Evans

LILIACEAE

Single rosette, to 1 m tall and wide; leaves dark green to bluish, 50-60 cm long, with reddish-brown teeth on the margins and thorns on the upper and lower surfaces; inflorescence 1 m tall; flowers yellow.

South Africa (Northern Province), Zimbabwe

CITES App. II

**Aloe acutissima** H.Perrier

LILIACEAE

Shrub to 1 m across, stems several, erect or procumbent branches, to 1 m long; leaves grey-green with reddish tinge, margins dentate with pale brown teeth; inflorescence 50 cm tall; flowers reddish-scarlet.

Madagascar

CITES App. II

**Aloe albiflora**
Guillaumin

LILIACEAE

Stemless plant with cylindrical roots, offset from the base and forming small clumps of compact rosettes; leaves 15 cm long, upper surface grey-green with numerous white spots, margins cartilaginous; inflorescence to 35 cm; flowers white.

Guillauminia albiflora (Guillaumin) Bertrand
Madagascar

CITES App. I

**Aloe amudatensis** Reynolds

LILIACEAE

Stemless plant offset from the base and forming dense groups; leaves erect, to 25 cm long and 5 cm wide at base, dull green, sometimes reddish-brown tinged, with whitish spots, the lower surface milky green with pale greenish spots; margins dentate with cartilaginous edge armed with small teeth; inflorescence to 65 cm long; flowers rose-pink to coral-red.

Kenya, Uganda

CITES App. II

**Aloe angelica** Pole-Evans

LILIACEAE

Usually single stemmed, to 4 m tall; upper leaves horizontal, lower leaves recurved, green to reddish-green, with sharp teeth along the margins. Inflorescence branched, flower buds reddish, turning greenish-yellow when open. Young specimen.

South Africa (Northern Province)

CITES App. II

**Aloe arborensis** Mill.

LILIACEAE

Rosettes on erect stems to 4 m tall, branched from base (or taller) and covered by persistent dry leaves; leaves to 60 cm long and 5 cm wide, grey-green to dark green, spiny margins; inflorescence to 80 cm tall; flowers scarlet.

Malawi, Mozambique, South Africa (Cape Province, Natal), Zimbabwe

CITES App. II

**Aloe arborescens** Mill.

LILIACEAE

Plant photographed in habitat (Natal).

CITES App. II

**Aloe arborescens** Mill.

LILIACEAE

The flowers.
CITES App. II**Aloe arenicola**

Reynolds

LILIACEAE

Shrubs with several creeping stems; leaves to 20 cm long, erect, bluish-green with whitish spots on both surfaces, margins whitish with small teeth; inflorescence simple or branched, flowers pale red.

South Africa (Cape Province)

CITES App. II

**Aloe barberae** Dyer

LILIACEAE

Trees, branched, to 18 m tall; trunks to 3 m in diameter; bark greyish-brown; leaves recurved, deeply channelled, with small whitish teeth; inflorescence branched, to 50 cm long; flowers salmon-pink to orange. Plant photographed in habitat (KwaZulu-Natal).

Aloe hainesii Dyer
Mozambique, South Africa (KwaZulu-Natal, Cape Province), Swaziland
CITES App. II**Aloe branddraaiensis** Groenew

LILIACEAE

Stemless rosettes forming small clumps; leaves green to reddish with white spots in longitudinal lines, margins armed with brown teeth; inflorescence to 150 cm tall, much branched, flowers coral-red.

South Africa (Mpumalanga)

CITES App. II

**Aloe brevifolia** Mill.

LILIACEAE

Rosettes densely leaved to 30 cm in diameter forming large clumps; leaves to 15 cm long and 6 cm wide, greyish-green, soft spines on lower surface, margins with white triangular spines; inflorescence unbranched to 60 cm tall; flowers red to yellow. Plant photographed in habitat. South Africa (Cape Province)

CITES App. II



Aloe buettneri A. Berger

LILIACEAE

Solitary plant, stemless, with leaf base forming a bulb-like swelling 8-10 cm in diameter below the soil; leaves to 55 cm long, green; margins with white to pink cartilaginous edge armed with teeth; inflorescence to 90 cm tall; flowers variable from greenish-yellow to pinkish-brown or bright red. Angola, Congo, Ghana, Malawi, Mali, Nigeria, Zambia CITES App. II



Aloe burgersfortensis Reynolds

LILIACEAE

Rosettes single or occasionally 2-3 headed; leaves brownish-green to bright green, densely or sparsely spotted; inflorescence 1-2 branched with pinkish-red flowers. South Africa (Transvaal) CITES App. II



Aloe caesia
Salm-Dyck

LILIACEAE

Stems to 1.5 m tall, branching from the base; leaves to 50 cm long, erectly spreading, with marginal teeth; inflorescence 80-100 cm tall; flowers pale red to whitish. A natural hybrid: *A. arborescens* × *A. ferox*. South Africa (Cape Province) CITES App. II



Aloe castanea
Schönland

LILIACEAE

Trees, small with several branches covered with the remains of old leaves; leaves to 1 m long, margins armed with brown teeth; inflorescence to 150 cm long, curled; flowers orange-brown.

South Africa (Mpumalanga, Northern Province)

CITES App. II



Aloe chabaudii Schönland

LILIACEAE

Rosettes stemless, erect, forming clumps; leaves green, white spots on both surfaces of young leaves, faint lines on both surfaces of mature leaves, margins with white teeth; inflorescence much branched, flowers red to pinkish.

Malawi, Mozambique, South Africa (Northern Province), Swaziland, Tanzania, Zambia, Zimbabwe CITES App. II



Aloe chabaudii
Schönland

LILIACEAE

Plant photographed in habitat.

CITES App. II

5000



Aloe chabaudii
Schönland
LILIACEAE
A flowering plant photographed in habitat.
CITES App. II

5000



Aloe chabaudii Schönland
LILIACEAE
Another specimen in different habitat.

CITES App. II

5015



Aloe ciliaris Haw.
LILIACEAE
Stems to 6 m long, shiny, usually supported by surrounding plants; leaves dark green; white marginal hair-like thorns present only on the apical part of the stems; inflorescence unbranched, to 50 cm long; flowers orange-red with yellow tips.
South Africa (Eastern Cape Province)

CITES App. II

5020



Aloe compressa H.Perrier var. *rugosquarrosa* H.Perrier

LILIACEAE
Solitary plant with very short stems or stemless; leaves to 15 cm long, glaucous with green marginal teeth sometimes with red apices; inflorescence to 70 cm tall; flowers white. The variety illustrated differs from the type in having longer leaves (to 25 cm) and being more robust with bigger flowers.

Madagascar

CITES App. I

5146



Aloe dichotoma Masson

LILIACEAE
Tree, dichotomously branching, to 10 m tall, 1 m diameter, leaves 20-30 cm long, arranged in rosettes at the end of branches; flowers yellow.
Namibia, South Africa (Bushmanland)

CITES App. II

5014



Aloe dichotoma
Masson
LILIACEAE
Plant photographed in habitat with the author's family.
CITES App. II

**Aloe dichotoma**

Masson

LILIACEAE

Young specimen photographed in habitat.

CITES App. II

**Aloe dichotoma**

Masson

LILIACEAE

The bark.

CITES App. II

**Aloe distans** Haw.

LILIACEAE

Stems to 3 m long, creeping, sprawling, forming dense groups; leaves bluish-green with whitish spots on both surfaces, margins armed with yellowish teeth; inflorescence to 1 m tall, branched, flowers orange-red to bright red.

South Africa (Cape Province)

CITES App. II

**Aloe dolomitica** Greenew.

LILIACEAE

Single stems, to 2 m tall, covered with dry leaves; leaves to 50 cm long, dark green to greyish-green, turning to red in winter; up to 6 inflorescences simultaneously, to 60 cm tall; flowers greenish-yellow to yellowish. The plant illustrated is a young one.

South Africa (Transvaal)

CITES App. II

**Aloe eligonica** Bullock

LILIACEAE

Plant forming clusters to 1 m in diameter; leaves dull green often with reddish tinge, recurved, margins armed with white teeth; inflorescence branched, pendulous, 30-50 cm long; flowers yellowish with a red vertical line. In habitat most of the plants hang down vertical cliffs.

South Africa (Bushmanland)

CITES App. II

**Aloe erinacea**

D.S. Hardy

LILIACEAE

Rosettes forming large clumps; leaves greyish-green, well armed with spines; inflorescence 1 m tall; flowers yellow.

Namibia

CITES App. II

**Aloe excelsa** A. Berger

LILIACEAE

Stem unbranched, erect, to 4 m tall, with persistent dry leaves; leaves to 70 cm long and 7 cm wide at base, dull green, tooth on the lower surface and margins; inflorescence 80-100 cm tall, flowers reddish or orange. Plant photographed in habitat. Malawi, Mozambique, South Africa, Zimbabwe. CITES App. II

**Aloe excelsa** A. Berger

LILIACEAE

Plant photographed in habitat.

CITES App. II

**Aloe excelsa** A. Berger

LILIACEAE

Cultivated specimen.

CITES App. II

**Aloe ferox** x *speciosa*

LILIACEAE

A natural hybrid with large stem and persistent old dry leaves; inflorescence branched and racemes bicoloured.

South Africa (Southern & Eastern Cape)

CITES App. II

**Aloe fosteri** Pillans

LILIACEAE

Stemless rosettes to 1 m in diameter; leaves bluish-green, striped, spots on the lower surface forming an 'H'; inflorescence to 120 cm; flowers yellow to orange or scarlet. Young specimen.

South Africa (Mpumalanga)

CITES App. II

**Aloe gariensis** Pillans

LILIACEAE

Stems to 1 m tall, branching and forming small groups, leaves dark green with horny edges, stems covered with old dry leaves; inflorescence to 1.2 m tall, flowers yellow. Photograph by Charles H. Everson.

Aloe gariensis Dinter

Namibia, South Africa (Cape Province)

CITES App. II

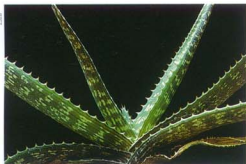
**Aloe greathedii** Schönland

LILIACEAE

Rosette stemless, solitary or forming clumps; leaves triangular, shiny green with white spots arranged in irregular bands, margins armed with sharp brown teeth; inflorescence to 150 cm; flowers pale pink to bright red.

Botswana, Malawi, Mozambique, South Africa (Northern Province), Swaziland, Zambia, Zimbabwe

CITES App. II

**Aloe greathedii** Schönland var. *davyana* Glen & D.S.Hardy

LILIACEAE

Spreading rosette; leaves lanceolate, shiny green; inflorescences 2, to 150 cm tall, branched; flowers pale pink to bright red.

Aloe davyana Schönland

South Africa (Free State, Northern Province), Swaziland

CITES App. II

**Aloe hambury** Borzi

LILIACEAE

Stem 1-1.5 m tall; leaves green to bluish, to 50 cm long arranged in a dense rosette; inflorescence 60 cm tall, branched; flowers red. Probably a hybrid of *A. ferox*.

Garden origin

CITES App. II

**Aloe hereroensis** Engl.

LILIACEAE

Rosettes on horizontal stems, single or sometimes divided into more heads; leaves greyish-green with whitish spots, margins cartilaginous armed with reddish-brown teeth; inflorescence to 1 m tall, branched; flowers orange-red, or yellow.

Angola, Namibia, South Africa (Northern Cape and Free State)

CITES App. II

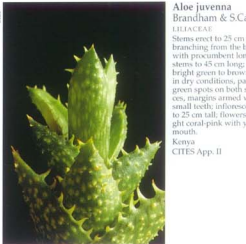
**Aloe jucunda** Reynolds

LILIACEAE

Rosette short stemmed; leaves to 4 cm long, 2.5 cm wide at base, recurved, dark green with numerous transparent spots, margins with 2 mm long teeth; inflorescence 35 cm tall; flowers pale pink.

Somalia

CITES App. II

**Aloe juvenna** Brandham & S.Carter

LILIACEAE

Stems erect to 25 cm tall, branching from the base, with procumbent longer stems to 45 cm long; leaves bright green to brownish in dry conditions, paler green spots on both surfaces, margins armed with small teeth; inflorescence to 25 cm tall; flowers bright coral-pink with yellow mouth.

Kenya

CITES App. II

**Aloe krapohliana** Marloth

LILIACEAE

Stemless rosettes, single or caespitose; leaves to 20 cm long, grey-green with greyish-brown transverse bands, margins with white teeth; up to 4 inflorescences from each rosette, simple or 1-2 branched; flowers dull red with greyish-yellow tips. Photograph by Charles H. Everson.

South Africa (Northern Cape)

CITES App. II

**Aloe linearifolia** A. Berger

LILIACEAE

Solitary plant; leaves narrow, to 25 cm long and 10 cm wide; margins may have minute teeth near the base; inflorescence to 40 cm high; flowers yellow. Plant photographed in habitat.

South Africa (Natal)

CITES App. II

**Aloe longistyla** Baker

LILIACEAE

Stemless plant, to 20 cm in diameter, solitary or sometimes forming clusters of 3 to 10; leaves to 15 cm long, greyish-green with a waxy layer, both surfaces and margins with white spines; inflorescence to 20 cm tall, unbranched, flowers salmon-pink to coral-red. Plant photographed in habitat.

South Africa (Little Karoo, Great Karoo)

CITES App. II

**Aloe lutescens** Groenew.

LILIACEAE

Horizontal stems from which several groups of rosettes arise; leaves narrow, yellowish-green to red when grown in full sun with incurved tips, margins with sharp teeth; inflorescence to 150 cm tall with 3 branches, buds dark red, open flowers bright yellow.

South Africa (Northern Province)
CITES App. II**Aloe marlothii** A. Berger

LILIACEAE

Single stemmed plant, 4 m tall and over; leaves wide, 40-60 cm long, dull green to greyish-green, brown spines on the margins and on both surfaces, dry leaves are persistent on the stem; inflorescence 50 cm long with several horizontal racemes (erect in the KwaZulu-Natal); flowers bright orange-red, or red or yellow. Plant photographed in habitat (Natal).

Botswana, Mozambique, southern Africa (KwaZulu-Natal), Swaziland, Zimbabwe
CITES App. II**Aloe marlothii** A. Berger

LILIACEAE

Plants in their natural habitat (Natal).
CITES App. II

4040

**Aloe marlothii** A. Berger

LILIACEAE

Cultivated specimen. Photograph by Charles H. Everson.

CITES App. II

2000

**Aloe marlothii** A. Berger

LILIACEAE

Young cultivated specimen.

CITES App. II

2008

**Aloe melanacantha** A. Berger

LILIACEAE

Rosettes forming groups up to 10; stems short; leaves 20 cm long, brownish-green, curved upwards and inwards giving a ball-shape to the rosette, black thorns along the margins and the keel; inflorescence 1 m tall, flowers bright red turning yellow when open.

Namibia, South Africa (Bushmanland, Northern Cape Province) CITES App. II

2000

**Aloe meyeri**
vanjaarsv.

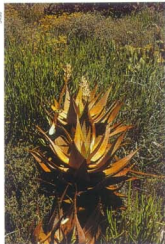
LILIACEAE

Stems to 1 m tall, branching from the base; leaves to 30 cm long, bluish-green, margins armed with white teeth; inflorescence simple with reddish-orange tips. In habitat the plants usually grow hanging from vertical cliffs.

Namibia, South Africa (northern Cape Province)

CITES App. II

2000

**Aloe microstigma**
Salm-Dyck

LILIACEAE

Rosettes, single or forming small groups; stems short or to 50 cm in older specimens, leaves to 30 cm long, reddish-green with white spots on both surfaces, margins armed with reddish-brown teeth; inflorescence simple, to 1 m tall, with dull red buds turning yellow when open. Plant photographed in habitat.

South Africa (eastern and western Cape Province)

CITES App. II

2000

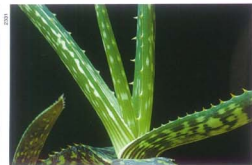
**Aloe mudenensis** Reynolds

LILIACEAE

Solitary or clump-forming plant with stems to 80 cm tall; leaves 25-30 cm long, bluish-green with scattered spots, margins with teeth 7 mm long; inflorescence to 1 m tall; flowers yellowish-orange to red.

South Africa (KwaZulu-Natal)

CITES App. II



Aloe nyeriensis Christian

LILIACEAE

Stems to 2 m tall, offset; leaves green, white spotted when young, 55 cm long, margins with teeth to 1.5 long; inflorescence 60 cm tall, branched; flowers coral-red. Young specimen.

Kenya

CITES App. II



Aloe ortholopha Christian & Milne-Redhead

LILIACEAE

Stemless rosettes; leaves 40-50 cm long, green to bluish-green, horny margins armed with teeth; inflorescence to 1 m tall, flowers pale yellowish to red.

Zimbabwe

CITES App. II



Aloe ortholopha
Christian
& Milne-Redhead

LILIACEAE

A flowering specimen,
Zimbabwe

CITES App. II



Aloe pachygaster
Dinter

LILIACEAE

Stemless, 20 cm in diameter; leaves grey-green, arranged in spiral, yellow marginal teeth; inflorescence 90 cm tall, flowers red.

Namibia

CITES App. II



Aloe parvibracteata Schönland

LILIACEAE

Stemless or sometimes short stemmed creeping plant; leaves variable in shape and colour, from bright green to purplish-green, upper surface with white margins armed with prickles; inflorescence branched at top; flowers orange or red.

Mozambique, South Africa (KwaZulu-Natal), Swaziland CITES App. II



Aloe pearsonii Schönland

LILIACEAE

Large shrubs, much branched, to 2 m in diameter; leaves dull bluish-green, red during drought periods; inflorescence 40 cm tall; flowers red to orange-red or yellow. Photograph by Charles H. Everson.

Namibia, South Africa (Cape Province)

CITES App. II

2000



Aloe pearsonii
Schönland
LILIACEAE
Flowers. Photograph by
Duke Benadom.
CITES App. II

2000



Aloe peglerae Schönland
LILIACEAE
Rosettes solitary or in small groups; leaves 25 cm long, greyish-green or reddish-green, curved inwards, margins with brown teeth and short rows of spines along the middle upper and lower surfaces; inflorescence 40 cm tall; flowers dull red.
South Africa (Transvaal)

CITES App. II

2000



Aloe pendens Forssk.
LILIACEAE
Shrubs with pendent stems 30-40 cm long; leaves 30 cm long, recurved, pale green with a narrow red edge on the margins; inflorescence 90 cm tall; flowers red-yellow.
Yemen

CITES App. II

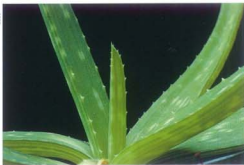
2000



Aloe pictifolia D.S.Hardy
LILIACEAE
Short stems, creeping or hanging, with rosettes forming small groups; leaves 15 cm long, reddish-green or pinkish with white spots on both surfaces and reddish-brown teeth along the margins; inflorescence to 35 cm tall; flowers dull red.
South Africa (eastern Cape Province)

CITES App. II

2000



Aloe pirottae A. Berger
LILIACEAE
Stemless plant usually in small groups; leaves recurved, to 50 cm long, green during the rainy season, becoming brownish during drought, marked with dull whitish spots, margins armed with brown teeth; inflorescence to 1 m tall; flowers pinkish-scarlet.
Ethiopia, Kenya, Somalia

CITES App. II

2000



Aloe pluridens Haw.
LILIACEAE
Plant single stemmed; leaves bright green, 70 cm long, armed with soft teeth; inflorescence to 1 m tall, flowers pinkish-red or yellow.
South Africa (Eastern Province, KwaZulu-Natal)

CITES App. II



Aloe pluridens Haw.

LILIACEAE

Young cultivated specimen.

CITES App. II



Aloe ramosissima Pillans

LILIACEAE

Shrubs to 2 m, with several branches; leaves 20 cm long, glaucous-green with pale yellow margins and pale brownish teeth; inflorescence 20 cm long; flowers yellow to greenish-yellow. Plant photographed in habitat by Charles H. Everson.

Namibia, South Africa (Cape Province)

CITES App. II



Aloe polyphylla
Schönland ex Pillans

LILIACEAE

Single rosette with a peculiar spiral arrangement of leaves; leaves 30 cm long, grey-green with the tips turning purplish-black; inflorescence to 60 cm tall; flowers red to salmon. Photograph by Ernst van Jaarsveld.

Lesotho

CITES App. I



Aloe ramosissima Pillans

LILIACEAE

Several plants in their natural environment. Photograph by Charles H. Everson.

CITES App. II



Aloe purpurascens (Aiton) Haw.

LILIACEAE

Stems to 80 cm tall, leaves 40-50 cm long, dull green to grey-green with white spots; inflorescence 90 cm tall; flowers light red.

South Africa (Cape Province)

CITES App. II



Aloe ramosissima
Pillans

LILIACEAE

A cultivated specimen.
CITES App. II

2005

**Aloe rauhii** Reynolds

LILIACEAE

Rosettes stemless or short stemmed to 10 cm in diameter forming dense groups; leaves 10 cm long, 2 cm wide at the base and narrowing to acute at apex, grey-green with white spots, margins dentate; inflorescence 30 cm tall; flowers rose-scarlet.

Madagascar

CITES App. I

2005

**Aloe reynoldsii** Letty

LILIACEAE

Plant stemless or short stemmed; leaves to 35 cm long, pale bluish-green to yellow with H-shaped whitish spots, margins with pinkish-red teeth; inflorescence 40-60 cm tall; flowers yellow tinged with orange.

South Africa (eastern Cape Province)

CITES App. II

2005

**Aloe riccobonii** Borzi

LILIACEAE

Rosette unbranched to 30 cm tall; leaves to 50 cm long and 6 cm wide at base, tapering, margins with reddish teeth 2-3 mm long, dull green; inflorescence to 60 cm tall, flowers yellow.

Garden origin

CITES App. II

2005

**Aloe rivae** Baker

LILIACEAE

Plant short stemmed; leaves to 20 cm long, green to bluish-green with marginal horny teeth; inflorescence 15-20 cm tall; flowers yellow.

Somalia

CITES App. II

2005

**Aloe rubroviolacea** Schweinf.

LILIACEAE

Stem thick, unbranched, to 1 m tall; leaves to 60 cm long and 10 cm wide at base, blue-reddish or purplish-violet, armed with red teeth; inflorescence 1 m tall, flowers bright red.

Yemen

CITES App. II

2005

**Aloe rupestris** Baker

LILIACEAE

Simple stems to 8 m tall; leaves 70 cm long, green with reddish-brown marginal teeth; inflorescence to 130 cm tall; flowers yellow to bright orange.

Mozambique, South Africa (KwaZulu-Natal), Swaziland

CITES App. II

2017

**Aloe rupestris Baker**

LILIACEAE
Plant photographed in
habitat (Natal).
CITES App. II

2018

**Aloe secundiflora Engl.**

LILIACEAE

Plant stemless or short stemmed; leaves to 45 cm long, dull green, unspotted, margins armed with brown teeth; inflorescence to 1.5 m tall, branched; flowers rose-pink.

Ethiopia, Kenya, Sudan

CITES App. II

2005

**Aloe saponaria Haw.**

LILIACEAE

Rosettes stemless; leaves 15-20 cm long, light green with horny, dark brown marginal teeth; flowers orange.

South Africa (Cape Province, Natal, Lesotho, Zimbabwe)

CITES App. II

2005

**Aloe sp.**

LILIACEAE

An unidentified species
from Somalia with greenish,
unspotted leaves and
white teeth.

Somalia

CITES App. II

2005

**Aloe saponaria Haw. var. latifolia (Aiton) Haw.**

LILIACEAE

This variety is more robust than the species, with larger, greener leaves and spots elongate and less numerous.

South Africa (Cape Province)

CITES App. II

2005

**Aloe sp.**

LILIACEAE

An unidentified species from Somalia with brownish-green, unspotted leaves and white teeth.

Somalia

CITES App. II

**Aloe speciosa Baker**

LILIACEAE

Plant single stemmed to 6 m tall; leaves to 50 cm long, blue-green with pinkish edges armed with teeth; inflorescence 50 cm tall; flowers red to greenish-white.

South Africa (eastern Cape Province)

CITES App. II

**Aloe squarrosa Baker**

LILIACEAE

Stems to 15 cm long, branching from the base; leaves 8 cm long and 2 cm wide at base, green with whitish spots, margins with uncinuate teeth; inflorescence to 15 cm long; flowers red.

South Yemen (Socotra)

CITES App. II

**Aloe stuedneri Schweinf.**

LILIACEAE

Plant branching at base; leaves to 60 cm long, green with rose-coloured edges armed with teeth; inflorescence to 50 cm tall; flowers yellow-orange.

Eritrea, Ethiopia

CITES App. II

**Aloe striata Haw.**

LILIACEAE

Stemless rosettes; leaves 40-50 cm long and 10-15 cm wide with white marginal teeth; inflorescence 1 m tall, branched; flowers coral-red to bright orange and yellow. Plant photographed in habitat by Charles H. Everson.

Aloe puniculata Jacq., *A. albo-cincta* Haw., *A. lambertiana* Naud., *A. rhodocincta* Hort. Namibia, South Africa (eastern Cape Province)

CITES App. II

**Aloe striata Haw.**

LILIACEAE

A flowering plant photographed in habitat by Charles H. Everson.

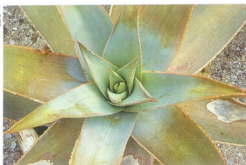
CITES App. II

**Aloe striata Haw.**

LILIACEAE

The flowers.

CITES App. II



Aloe striata Haw.

LILIACEAE

A cultivated specimen.

CITES App. II



Aloe tenuior Haw.

LILIACEAE

Bushes with stems to 3 m tall; leaves 10-15 cm long, bluish-green, crowded in terminal rosettes, margins with horny white edge; inflorescence 10-20 cm tall; flowers from yellow to red.

South Africa (eastern Cape Province)

CITES App. II



Aloe thompsoniae

Groenew.

LILIACEAE

Rosettes more or less stemless, offset and forming dense groups; leaves 15 cm long, light green, with small spots on the lower or sometimes the upper surface, margins with minute white teeth; inflorescence 20 cm tall; flowers red.

South Africa (Northern Province)

CITES App. II



Aloe thompsoniae

Groenew.

LILIACEAE

Flowers.

CITES App. II



Aloe thraskii Baker

LILIACEAE

Stem unbranched at least 2 m tall, covered with dry leaves; leaves to 1.5 m long and 20 cm wide at base, dull green to glaucous, tapering towards the apex and recurved, margins concave, armed with triangular teeth; inflorescence 30 cm tall, flowers yellow to pale orange.

South Africa (Cape Province, Natal)

CITES App. II



Aloe vacillans Forssk.

LILIACEAE

Stem to 50 cm tall, prostrating; leaves dull glaucous-green, to 60 cm long; lower surface with a few small teeth in the median line; inflorescence to 2 m tall; flowers red.

Saudi Arabia, Yemen

CITES App. II



Aloe vaombe Decorse & J.Poiss.

LILIACEAE

Plant single stemmed, to 3 m tall; leaves to 1 m long, tapering towards the apex, dull green, unspotted, margins dentate; inflorescence branched, to 90 cm tall; flowers crimson-red.

Madagascar

CITES App. II



Aloe variegata L.

LILIACEAE

Rosettes stemless, elongated, to 25 cm tall, offsetting and forming dense groups; leaves to 15 cm long, 4 cm wide at base, green to brownish-green with white spots arranged in bands; inflorescence 30 cm tall; flowers pink. Plant photographed in habitat.

Alix punctata Haw.

South Africa (Cape Province, Karoo, Namaqualand)

CITES App. II



Aloe vogtsii

Reynolds

LILIACEAE

Solitary or offsetting rosettes to 20 cm tall; leaves 20-25 cm long, grey-green to pale green, spotted with minute spots, margins with triangular teeth; inflorescence 60 cm tall; flowers bright red to scarlet.

South Africa (Northern Province)

CITES App. II



Aloe x laetococcinea A.Berger

LILIACEAE

Rosettes stemless; leaves 20 cm long, 5 cm wide at base, green to bluish-green with elongate white irregular spots and margins with horny teeth; inflorescence 20 cm tall; flowers red.

Garden origin

CITES App. II



Aloe zebra Baker

LILIACEAE

Plant stemless or short stemmed; leaves dull green, striated and marked with whitish spots, margins dentate armed with horny teeth; inflorescence to 1.5 m tall; flowers reddish.

Angola, Botswana, Mozambique, Namibia, Zambia, Zimbabwe

CITES App. II



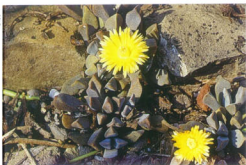
Aloinopsis malherbei (L.Bolus) L.Bolus

MESEMBRYANTHEACEAE

Leaves erect, lanceolate, glaucous-green, 1.8-2.5 cm long with small white tubercles more evident at apex; flowers 2.5 cm in diameter, pale brown to flesh coloured.

Naxanthus malherbei L.Bolus

South Africa (Calvinia)



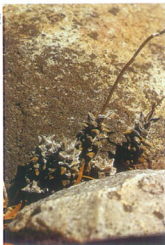
Aloinopsis orpenii (N.E.Br.) L.Bolus

MESEMBRYANTHEACEAE

Leaves bluish-green, 1.5-2 cm long with dark spots, forming dense clumps; flowers 3.5 cm in diameter, yellow.

Nananthus orpenii L.Bolus

South Africa (Cape Province)



Anacamperos arachnoides (Haw.) Sims

PORTULACACEAE

Branches to 5 cm long with fibrous root; leaves 1-2 cm long, acuminate, green, flushed purple with a few white bristle-hairs; inflorescence 8 cm tall; flowers white, tinged with pale purple or pink. Plant photographed in habitat.

South Africa (Great and Little Karoo)

CITES App. II



Anacamperos arachnoides (Haw.) Sims

PORTULACACEAE

Specimen in flower.

CITES App. II



Anacamperos arachnoides (Haw.) Sims

PORTULACACEAE
Plant photographed in habitat.

CITES App. II



Anacamperos baeseckei Dinter

PORTULACACEAE

Short rootstock about 1 cm in diameter; stems 2-8 cm tall, with numerous branches; leaves minute, 3-7 mm long, hairy; flowers white to rose.

Namibia
CITES App. II



Anacamperos baeseckei Dinter

PORTULACACEAE

A cultivated specimen.

CITES App. II



Anacamposos crinita (Dieter) A.Poelln

PORTULACACEAE

Stems with small branches 8 cm tall, 1 cm thick; leaves 4 mm long, light green with brownish hairs to 1.5 cm long; flowers carmine-red with white margins. Considered synonym of *A. huteseki*.

Namibia, South Africa (Cape Province)

CITES App. II



Anacamposos retusa Poelln.

PORTULACACEAE

Caudex 1-2 cm long, with small branches to 8 cm tall; leaves to 1 cm long, green to reddish-brown axils with long brownish hairs to 1.5 cm; flowers carmine-red to pink with white margins.

Namibia, South Africa (Cape Province)

CITES App. II



Anacamposos lanceolata (Haw.) Sweet

PORTULACACEAE

Plant clump-forming to 8 cm tall with fibrous roots; leaves brown, 4 cm long with a minute spiny tip; flowers carmine or white. Plant photographed in habitat.

South Africa (Cape Province)

CITES App. II



Anacamposos sp. DT 2482

PORTULACACEAE

An unidentified plant, probably a new species recently collected and distributed.

South Africa (Cape Province)

CITES App. II



Anacamposos namaquensis H.Pears. & Stephens

PORTULACACEAE

Small shrub, branched, to 12 cm tall; leaves 5-10 mm long and 5 mm wide, green covered with hairs; flowers pink. Considered a subspecies of *A. filamentosa*.

Namibia

CITES App. II



Anacamposos sp. SB 684

PORTULACACEAE

An unidentified plant, possibly a new species recently collected and distributed.

South Africa (Cape Province)

CITES App. II



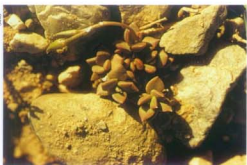
Anacamperos telephiastrum DC.

PORTULACACEAE

Several stems to 5 cm tall arising from a thickened root, leaves 1 cm long and 8 mm wide, brownish-green, with bristly hairs; flowers rose-carmine. Plant photographed in habitat.

South Africa (Cape Province)

CITES App. II



Anacamperos telephiastrum DC.

PORTULACACEAE

A specimen among rocks. Plant photographed in habitat. Namibia, South Africa (Cape Province)

CITES App. II

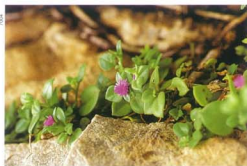


Aptenia cordifolia (L.f.) Schwantes

MESEMBRYANTHEMACEAE

Small shrub, with several green succulent stems to 60 cm long growing flat on the ground; leaves fresh green, papillose, to 2.5 cm long; flowers purple-red.

South Africa (Eastern Cape)



Aptenia cordifolia (L.f.) Schwantes

MESEMBRYANTHEMACEAE

Flowering specimen.



Argyroderma carinatum L. Bolus

MESEMBRYANTHEMACEAE

Solitary plant; leaves rounded, to 2 cm long, pale bluish; flowers pink-purple.

South Africa (Cape Province)



Astroloba foliolosa (Willd.) Uitewaai

LILIACEAE

Stems erect, to 30 cm tall, leaves spirally arranged, 1-1.5 cm long and wide at base, dark green to black; flowers yellow.

South Africa (Cape Province)



Avonia dinteri (Schinz) G.D.Rowley

PORTULACACEAE

Dwarf, creeping plant branching from the base with prostrate shoots to 10 cm long; leaves 3 mm long and wide covered by silvery scales; flowers red.

Anacampseros dinteri Schinz

Namibia

CITES App. II



Avonia mallei G.Will.

PORTULACACEAE

Small shrub, much branched, to 10 cm tall; leaves covered with white scales, dark spot at the tip of each; flowers white.

South Africa (Cape Province)

CITES App. II



Avonia papyracea (Poeeln.) G.D.Rowley

PORTULACACEAE

Tuberous root with several 5-10 cm long shoots; leaves 2 mm long and 3 mm wide, pure white with ovate scales; flowers white.

Anacampseros papyracea Poeeln.

Namibia, South Africa (Cape Province)

CITES App. II



Avonia papyracea (Poeeln.) G.D.Rowley

PORTULACACEAE

Plant photographed in habitat.

CITES App. II



Avonia papyracea ssp. *namaensis* G.D.Rowley

PORTULACACEAE

Very similar to the species but with dentate scales.

Anacampseros mjeri Poeeln.

Namibia

CITES App. II



Avonia papyracea ssp. *namaensis* G.D.Rowley

PORTULACACEAE

Large clump.

CITES App. II



Avonia quinaria ssp. alstonii (Schönland) G.D.Rowley

PORTULACACEAE

Caudex to 6 cm in diameter with numerous 2 cm long branches; leaves in rows covered with silvery stipules; flowers white or rarely pink.

Anacampsesos alstonii Schönland

Namibia

CITES App. II



Avonia recurvata (Schönland) G.D.Rowley

PORTULACACEAE

Tuberosus root with many decumbent or erect shoots to 8 cm long; leaves 1-2 mm long and 2-3 mm wide, pale or purplish-green, with a few short hairs arising from the axils; flowers white.

Anacampsesos recurvata Schönland

Namibia, South Africa (Cape Province)

CITES App. II



Avonia rhodesica
(N.E.Br.) G.D.Rowley

PORTULACACEAE

Caudex 2-5 cm in diameter with several erect or prostrate tiny shoots to 3 cm tall; leaves covered by silvery scales; flowers white to pink.

Anacampsesos rhodesica
N.E.Br.

Somalia, South Africa
(Transvaal), Zimbabwe

CITES App. II



Begonia dregei Otto & A.Dietrich

BEGONIACEAE

Caudex brown, 10 cm in diameter; leaves green with reddish petiole, 5-10 cm long, very variable; margins denticulate; inflorescence with few flowers.

South Africa (Cape Province, Zululand)



Beta procumbens (Ch.Sm.) Williams, Scott & Ford-Lloyd

CHENOPODIACEAE

Stems herbaceous, procumbent, and very variable; leaves ovate to triangular.

Canary Islands (Fuerteventura, Gomera, Gran Canaria, Lanzarote, La Palma)



Boophane haemanthoides Snijman

AMARYLLIDACEAE

Leaves to 50 cm long, arising from a large bulb; inflorescence to 30 cm tall; flowers cream with reddish tips.

South Africa (Namaqualand, Western Cape)

8210

***Bowiea gariensis* vanjaars.**

LILIACEAE

Bulbs spherical, to 30 cm in diameter, green; shoots 50-100 cm long, twining; leaves small, caducous; flowers white.
Namibia, South Africa (Cape Province)

8218

***Brachystelma barberae* Harv. ex Hook.**

ASCLEPIADACEAE

Flat caudex 10 cm in diameter and over; stems to 10 cm long; leaves 10-20 cm long; stems and leaves deciduous; flowers dirty purple with yellow centre, malodorous.
South Africa (Cape Province, Natal, Transvaal), Zimbabwe

8265

***Brachystelma circinatum* E.Mey.**

ASCLEPIADACEAE

Caudex to 13 cm in diameter; stems 25 cm long, branching from the base; leaves 1-2 cm long; flowers in clusters, colour variable.
Namibia, South Africa (Cape Province)

1034

***Brachystelma coddii* R.A.Dyer**

ASCLEPIADACEAE

Tuber 2-5 cm in diameter and to 3 cm tall; stems simple or branched from the base, to 20 cm long, hairy; leaves ovoid, 2.5 cm long; flowers solitary, wine-coloured with red spots.
Swaziland

1034

***Brachystelma longifolium* (Schltr.) N.E.Br.**

ASCLEPIADACEAE

Rootstock producing clusters of fleshy roots; stems 10-30 cm tall; leaves narrow, 3-7 cm long; flowers greenish tinged with brown.
South Africa (Transvaal)

1035

***Brachystelma meyerianum* Schltr.**

ASCLEPIADACEAE

Tuber 4-6 cm in diameter; stems annual, to 1.5 m long, spreading or ascending; leaves to 3 cm long, hairy or hairless; flowers pinkish to greyish-green.
South Africa (Eastern Cape), Transkei

2041



Brachystelma ngomense R.A.Dyer

ASCLEPIADACEAE

Tuber 2-3 cm in diameter; stems annual, prostrate, branching, 1 m long or to 2 m in cultivation; leaves to 1.5 cm long; flowers dark red or maroon, with white tip.

South Africa (Natal)

3000



Brachystelma sp.

ASCLEPIADACEAE

Unidentified species with tuber 10-15 cm in diameter. Plant photographed in habitat.

Zimbabwe

3021



Brunsvigia sp.

AMARYLLIDACEAE

Unidentified species with stout bulb above ground and variegated leaves. Photograph by Charles H. Everson.

South Africa

3219



Bulbine haworthioides B.Nord

LILIACEAE

Caudex 1-2 cm in diameter; leaves to 10 cm long, arranged in a flat rosette; inflorescence 15 cm tall; flowers yellow.

South Africa (Cape Province)

3200



Bulbine latifolia (L.f.) Roem. & Schult.

LILIACEAE

Stemless, aloe-like rosette; leaves 20-30 cm long, recurved, pale green; inflorescence 15-25 cm tall; flowers yellow.

South Africa (Cape Province)

3018



Bulbine sp.

LILIACEAE

A recently discovered species with leaves arranged in rosettes, pale green; inflorescence to 30 cm tall, flowers yellow. Plant photographed in habitat.

South Africa (Cape Province)

3410



Bulbine sp.
LILIACEAE
The inflorescence.
Plant photographed
in habitat.

3420



Bulbine sp.
LILIACEAE
A view of the habitat.

3421



Bulbine sp.
LILIACEAE
A flowering specimen in
habitat.

3701



Bursera fagaroides Engl.

BURSERACEAE

Shrub or small tree to 5 m tall, bark of the trunk pale reddish-orange, leaflets with leaves heart-shaped; flowers reddish.

Mexico

3808



Caralluma burchardii
N.E.Br.

ASCLEPIADACEAE

Clump-forming plant; stems to 45 cm long, quadrangular, grey-green with red spots; flowers in clusters at apices of stems, olive green to red-brown with outer corona yellow.

Photograph by Roberto Mangani,
Canary Islands, Morocco

3821



Caralluma dodsoniana Lavranos

ASCLEPIADACEAE

Clump-forming plant; stems to 60 cm long, 4-angled; flowers deep red-brown. Photograph by Gaetano Palisano.

Somalia



***Caralluma retrospectiens* (Ehrenb.) N.E.Br.**

ASCLEPIADACEAE

Erect 4-angled stems freely branching and forming dense bushes; edges with teeth; black-brown flowers with dark violet-red cilia.
Eritrea, Somalia, Sudan



***Carprobrotus edulis* (L.) L.Bolus**

MESEMBRYANTHEMACEAE

Stems prostrate, to 1 m long, branching; leaves dull green, turning reddish in dry, sunny location, triangled; flowers 8-10 cm in diameter, yellowish-pink to purple; fruits edible.
South Africa, naturalized in Mediterranean regions



***Carprobrotus muiirii* (L.Bolus) L.Bolus**

MESEMBRYANTHEMACEAE

Stems 20-30 cm long; leaves green, to 6 cm long, erect, spreading; flowers 6 cm in diameter, pink-purple.
South Africa (Cape Province)



***Carruanthus ringens* (L.) Boom**

MESEMBRYANTHEMACEAE

Plant to 10 cm tall; leaves crowded, yellowish-green, to 5 cm long, with margins finely toothed; flowers yellow.
South Africa (eastern Cape Province)



***Cephalophyllum spongiosum* (L.Bolus) L.Bolus**

MESEMBRYANTHEMACEAE

Shrub to 30 cm tall; branches more or less ascending, yellow-brown, spongy; leaves light to dark green, erect, 3-angled, in pairs of unequal length, to 11 cm long; flowers scarlet.
South Africa (Cape Province)



***Cephalophyllum spongiosum* (L.Bolus) L.Bolus**

MESEMBRYANTHEMACEAE

The flower. Photograph by Charles H. Everson.



Ceraria fruticulosa G.Pearson & Stephen

PORTULACACEAE

Shrub to 60 cm tall, freely branching; leaves small, to 6 mm long, green to grey-green; flowers small, pink. Young specimen.
Namibia, South Africa (Cape Province)



Cerpegia africana
R.Br.

ASCLEPIADACEAE

Tuber 5 cm in diameter, with axillary tubers; stems annual, branching sparsely from base; leaves to 2.5 cm long and 1 cm wide; flowers greenish striped with violet-brown. Photograph by Leo Pickoff.
South Africa (Cape Province)
CITES App. II



Cerpegia ampliata
E.Mey

ASCLEPIADACEAE

Stems thick, grey-green; leaves absent or scale-like; flowers cylindrical, 2-5 cm long with swollen base, pale green outside, with a purple band inside. Photograph by Leo Pickoff.
South Africa (Natal)
CITES App. II



Cerpegia bulbosa
Roxb.

ASCLEPIADACEAE

Stems twining, to 50 cm long and over; leaves thin, 3 cm long, pale green turning to reddish in full sun; flowers 3-5 together, to 2 cm long, greenish below, purple above. Photograph by Leo Pickoff.
Ethiopia, India, Oman, N. Yemen, Pakistan
CITES App. II



Cerpegia cimiciodora Oberm.

ASCLEPIADACEAE

Stems succulent, prostrate to erect, to 150 cm long; flowering stems thinner and leafless; flowers with red-brown lobes. Photograph by Leo Pickoff.
South Africa (Cape Province)
CITES App. II



Cerpegia dimorpha Humb.

ASCLEPIADACEAE

Stems erect, grey-violet, to 15 cm tall; leaves lanceolate, to 3.5 cm long; flowers pale violet to pale red with dark violet stripes.
Madagascar
CITES App. II



Ceropogia fortuita
R.A.Dyer

ASCLEPIADACEAE
Tuber to 5 cm in diameter and 3 cm tall; stem annual, branching sparsely; climbing and twining to 1 m tall; leaves to 2.5 cm long and 1.2 cm wide with few hairs on margins; flowers purple, hairy.
South Africa (Natal)
CITES App. II



Ceropogia fortuita R.A.Dyer

ASCLEPIADACEAE
Stems and flower.

CITES App. II



Ceropogia fusca Bolle

ASCLEPIADACEAE
Stems erect, to 1 m tall with several spreading cylindrical branches, greyish or purplish; leaves 4 cm long and 3 mm wide borne only during growing season; flowers brown.
Plant photographed in habitat.
Canary Islands (Tenerife)
CITES App. II



Ceropogia fusca Bolle

ASCLEPIADACEAE
The flowers. Plant photographed in habitat.
Canary Islands
CITES App. II



Ceropogia krainzii Svent.

ASCLEPIADACEAE

Stems erect, numerous, to 60 cm tall, simple or dichotomously branched, olive green to whitish; leaves only on the younger parts, 1-3 cm long, grey; flowers whitish-yellow.
Canary Islands

CITES App. II



Ceropogia radicans
Schltr.

ASCLEPIADACEAE
Low shrub with creeping stems rooting at nodes; leaves 2-5 cm long; flowers green-white with purple blotches. Photograph by Leo Pickoff.
South Africa (Cape Province)
CITES App. II

4155A



Ceropogia radicans
Schltr.
ASCLEPIADACEAE
Close-up of the flower.
Photograph by Leo Pickoff.
CITES App. II

3678



Ceropogia rendallii N.E.Br.

ASCLEPIADACEAE

Stems 8-15 cm long arising from a tuber and twining; leaves 1.5-3 cm long; flowers purple at base, white towards the apex.

South Africa (Transvaal)

CITES App. II

4155B



Ceropogia rendallii
N.E.Br.
ASCLEPIADACEAE
Close-up of the flower.
Photograph by Leo Pickoff.
CITES App. II

4155C



Ceropogia somaliensis Chiov.

ASCLEPIADACEAE

Stems twining, glabrous; leaves small, ovate; flowers hairy, whitish with darker spots. Photograph by Leo Pickoff.

Kenya, Somalia

CITES App.

3679



Ceropogia sp.

ASCLEPIADACEAE

The flower of an unidentified species with succulent leafless stems.

Photograph by Gaetano Palisano.

CITES App. II

4481



Ceropogia sp.
Transvaal

ASCLEPIADACEAE

An unidentified species in trade as originating from Transvaal. Tuber large; stems twining, leaves long, green, flowers small.

South Africa (Transvaal)

CITES App. II

**Ceropegia sp.** Transvaal

ASCLEPIADACEAE

The flowers of the Transvaal species.

CITES App. II

**Ceropegia woodii** Schltr.

ASCLEPIADACEAE

Stems creeping, branches filamentous with tubers at the nodes; leaves heart-shaped, dark green with white marks; flowers brown. Some authors consider this species a variety of *C. linearis* E.Meyer.

South Africa (Natal), Zimbabwe

CITES App. II

**Ceropegia stapeliiformis** Haw.

ASCLEPIADACEAE

Stems to 1.5 m tall, grey-brown, trailing; leaves tiny, inconspicuous; flowers brownish with whitish spots. Photograph by Leo Pickoff.

South Africa (Cape Province)

CITES App. II

**Chasmatophyllum muscolinum** (Haw.) Dinter & Schwantes

MESEMBRYANTHEMACAE

Plant forming dense groups; branches prostrate; leaves 1.5-2 cm long, 3-angled to semi-cylindrical, grey-green with minute transparent spots; flowers yellow.

Namibia

**Ceropegia variegata** (Forssk.) Decne

ASCLEPIADACEAE

Stems creeping, very fleshy and leafless, flowers pale green or pink, with dark red spots. Photograph by Leo Pickoff.

Arabia

CITES App. II

**Cheiridopsis****cigarettifera**

(A.Berger) N.E.Br.

MESEMBRYANTHEMACAE

Stems with 2-4 pairs of leaves of unequal size, the longest pair 3-6 cm; leaves grey-green with translucent spots; flowers yellow. Plant photographed in habitat.

South Africa (Cape Province)

**Cheiridopsis peculiaris** N.E.Br.

MESEMBRYANTHEMACEAE

Small plant; leaves in 2 pairs, grey-green with darker spots; flowers yellow. Photograph by Charles H. Everson.
Namibia, South Africa (Little Namaqualand)

**Chorisia speciosa**
A.St.-Hil.

BOMBACACEAE

Tree over 20 m tall with very spiny stems and branches; leaves digitate; flowers 10 cm in diameter, yellowish or reddish; fruits very woody.
Brazil

**Chorisia speciosa** A.St.-Hil.

BOMBACACEAE

The flower.

**Chorisia speciosa** A.St.-Hil.

BOMBACACEAE

The spiny trunk.

**Cissus lanigera** Harv.

VITACEAE

Trailing stems to 2 m long; leaves ovate to lanceolate, hairy, 7-10 cm long and 3-5 cm wide; flowers yellowish-white; fruit red.
South Africa (Natal)

**Cissus quadrangularis** L.

VITACEAE

Stems green, climbing, much branched, 4-angled, constricted at nodes and rooting; leaves only on growing portions of the stems; inflorescence 5 cm long; flowers yellow to green. Plant photographed in habitat.

Tropical Africa,
southern Asia, Malaysia



Cissus quadrangularis L.
VITACEAE
Flowering specimen in habitat.



Cissus quadrangularis L.
VITACEAE
Plant photographed in habitat.



Cissus sp.
VITACEAE
An unidentified species with thick caudex and long, trailing stems. Kenya



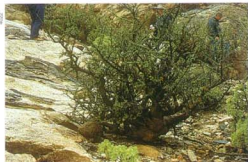
Cissus trifoliata (L.) L.

VITACEAE
Stems slender, striated, to 10 m long, with long tendrils; leaves tripartite, succulent; flowers greenish-yellow.
USA (New Mexico)



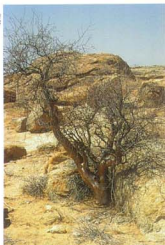
Cissus tuberosa
Moç. & Sessé

VITACEAE
Caudex swollen; stems with thick internodes, long tendrils and aerial roots; leaves 5-10 cm long, palmate; flowers greenish-yellow.
Mexico



Commiphora capensis (Sond.) Engl.

BURSERACEAE
Bush to 2 m tall; branches thick, covered with brown to green bark, peeling in small papery flakes; leaves almost circular, smooth, green; flowers inconspicuous, greenish to yellow. Photograph by Charles H. Everson.
Namibia, South Africa (Cape Province)



Commiphora saxicola
Engl.

BURSERACEAE

Base swollen with several stems, 50-100 cm tall and to 2 m in diameter; bark yellowish-green or grey, rarely reddish-brown, not peeling; leaves small, shiny green; flowers very small, yellowish. Photograph by Charles H. Everson. Namibia



Conicosia pugioniformis (L.) N.E.Br.

MESEMBRYANTHEMACAE

Stems erect, to 30 cm tall; leaves to 20 cm long, 3-angled, grey-green with reddish base; flowers yellow. Plant photographed in habitat.

South Africa (Cape Province)



Conophyllum angustifolium L.Bolus

MESEMBRYANTHEMACAE

Shrub, freely branching; branches to 30 cm long with red-brown internodes; leaves to 10 cm long, rounded on the lower surface; flowers whitish to lemon yellow.

Namibia, South Africa (Little Namaqualand)



Conophyllum framesii

(L.Bolus.) L.Bolus

MESEMBRYANTHEMACAE

Branches to 15 cm long, brown, those bearing flowers thinner and with shorter internodes; leaves rounded, to 7 cm long; flowers pale pink.

Namibia, South Africa (Little Namaqualand)



Conophyllum blandum L.Bolus

MESEMBRYANTHEMACAE

Plant caespitose; leaves whitish to bluish-green, sometimes flushed with red; flowers white to very pale pink.

South Africa (Cape Province)



Conophyllum cupreatum Fischer

MESEMBRYANTHEMACAE

Bodies to 1.5 cm tall, coriaceous, coppery-brown with dark windows and grey spots; flowers white. Hammer considers this species a variety of *C. pef-laculum* Schwant.

South Africa (Cape Province)



Conophytum fraternum (N.E.Br.) N.E.Br.

MESEMBRYANTHEACEAE

Branches to 5 cm long, thick; bodies numerous, to 1 cm long, forming clumps, reddish-green with dark green spots; flowers white-pink. South Africa (Cape Province)



Conophytum jacobsonianum Tischer

MESEMBRYANTHEACEAE

Plant forming large clumps; bodies pear-shaped to 1.5 cm long, whitish to grey-green with several dark green spots; flowers whitish-pink. Hammer considers this species a synonym of *C. gratum* N.E.Br. South Africa (Cape Province)



Conophytum giftebergense Tischer

MESEMBRYANTHEACEAE

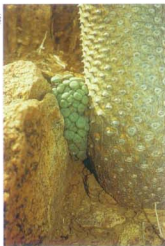
Bodies to 1 cm long and 1 cm diameter, olive green with darker spots; flowers white. Considered by Hammer a form of *C. obcordatum* N.E.Br. South Africa (Cape Province)



Conophytum lambertense Schick & Tischer

MESEMBRYANTHEACEAE

Bodies to 1 cm tall, grey-green with a darker line around the fissure and prominent green to reddish lines on the apical part; flowers white. Hammer considers this species synonym of *C. obcordatum* N.E.Br. South Africa (Cape Province)



Conophytum gratum

(N.E.Br.) N.E.Br.

MESEMBRYANTHEACEAE

Bodies to 2.5 cm tall and wide, forming mats, glaucous-green with grey or dark spots; flowers red-magenta. Photograph by Charles H. Everson. South Africa (Cape Province)



Conophytum maximum Tischer

MESEMBRYANTHEACEAE

Bodies to 3 cm tall and 2.5 cm wide, grey-glaucous with dark green spots; flowers pink. Hammer considers this species a synonym of *C. gratum* (N.E.Br.), but flattish and larger. South Africa (Cape Province)



Conophytum minutum (Haw.) N.E.Br.

MESEMBRYANTHEMACEAE

Bodies to 1.2 cm tall, 1 cm wide, bluish-grey-green with darker spots; flowers pink to pink lilac or rarely white.

South Africa (Cape Province)

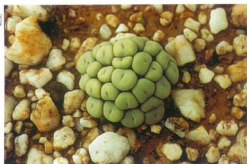


Conophytum ornatum Lavis

MESEMBRYANTHEMACEAE

Plant caespitose; bodies to 2 cm tall, bluish-green with isolated dark spots; flowers yellow. Hammer considers this species a population of *C. flatum* N.E.Br.

South Africa (Cape Province)



Conophytum pearsonii N.E.Br.

MESEMBRYANTHEMACEAE

Plant forming clumps; bodies conical to 1.6 cm long, glaucous to yellowish-green, occasionally with darker spots; flowers violet-pink. Hammer considers this species a variety of *C. minutum* (Haw.) N.E.Br. Photograph by Charles H. Everson.

South Africa (Cape Province)



Conophytum praecox N.E.Br.

MESEMBRYANTHEMACEAE

Bodies over 1 cm long, forming clumps, pale grey to pale bluish-green, several dark green spots; flowers white.

South Africa (Cape Province)



Conophytum quaesitum (N.E.Br.) N.E.Br.

MESEMBRYANTHEMACEAE

Bodies elliptical, to 1.2 cm tall and 1.5 cm wide, light grey to bluish-green with dark green spots; flowers white.

South Africa (Cape Province)

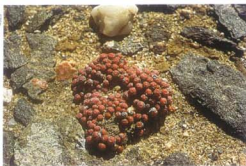


Conophytum ricardianum Loesch & Tischer

MESEMBRYANTHEMACEAE

Plant forming clumps; bodies conical to 1.8 cm tall, grey-green with dark green spots; flowers whitish.

Namibia



Conophytum saxetanum (N.E.Br.) N.E.Br.

MESEMBRYANTHEACEAE

Plant forming large clumps; bodies to 1 cm long, variable in colour, green to greyish-green, pale blue, purple-red or orange, spotted or immaculate; flowers white. Photograph by Charles H. Everson.

Namibia



Conophytum tantillum N.E.Br. ssp. *helenae* (Rawe) S.Hammer

MESEMBRYANTHEACEAE

Plant forming mats; bodies pale greyish-green, lined with red; flowers pink to magenta.

Conophytum helenae Rawe
South Africa (Cape Province)



Conophytum spectabile Lavis

MESEMBRYANTHEACEAE

Bodies to 1.2 cm tall and 0.8 cm wide, green marked with red-brown lines; flowers white. Hammer considers this species synonym of *C. obcordellum* N.E.Br.

South Africa (Cape Province)



Conophytum tischeri Schick

MESEMBRYANTHEACEAE

Plant with short stems forming small mats; bodies to 1.3 cm tall, grey-green with dark red spots; flowers lilac. Hammer considers this species as synonym of *C. erythrum* N.E.Br.

South Africa (Cape Province)



Conophytum subfenestratum Schwantes

MESEMBRYANTHEACEAE

Plant forming clumps; bodies to 2.5 cm long, cylindrical, light green with dark green spots; flowers white to violet-pink.

South Africa (Cape Province)

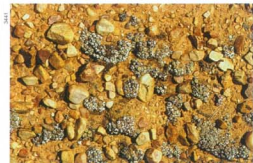


Conophytum truncatum (Thunb.) N.E.Br. var. *wiggeltiae* (N.E.Br.) Rawe

MESEMBRYANTHEACEAE

Plant forming small cushions to 5 cm in diameter; bodies to 1.5 cm long, whitish-green to reddish-grey-green with spots green to reddish; flowers white to pale pink.

Conophytum calitadorpense Tischer, *C. wiggeltiae* N.E.Br.
Namibia, South Africa (Cape Province)



Conophytum truncatum (Thunb.) N.E.Br. var. *wiggettiae* (N.E.Br.) Rawe

MESEMBRYANTHEMACAE
Plant photographed in habitat.



Conophytum violaciflorum Schick & Tischer

MESEMBRYANTHEMACAE
Plant forming small mats; bodies dark green with darker green spots; flowers violet-pink.
South Africa (Cape Province)



Cordyline indivisa (J.R.Forst.) Steud.

AGAVACEAE
Plant to 8 m tall, stems sparsely branched; leaves lanceolate, to 1.5 m long, green above, glaucous beneath; inflorescence to 1.5 m tall; flowers white.
New Zealand



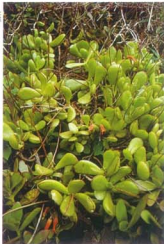
Cotyledon campanulata Harv.

CRASSULACEAE
Shrub to 20 cm tall; stem rigid and bare at the base with age; leaves opposite, yellowish-green, 3-12 cm long, 0.6-1.2 cm wide, covered with soft hairs; flowers yellow.
Cotyledon tetragona Thunb.
South Africa (Cape Province)



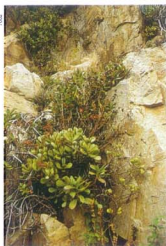
Cotyledon campanulata Marloth

CRASSULACEAE
A young plant.

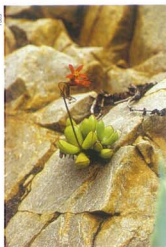


Cotyledon elisae vanjaarsvii

CRASSULACEAE
Erect, much-branched shrublet, to 20 cm tall; leaves 1.5-3 cm long, green with purple margins in the upper third; inflorescence to 20 cm tall; flowers orange-red. Plant photographed in habitat.
South Africa (Cape Province)



Cotyledon elisae
vanjaarsv.
CRASSULACEAE
Plant photographed in
habitat.
South Africa (Cape
Province)



Cotyledon elisae
vanjaarsv.
CRASSULACEAE
Specimen growing on
a rock. Plant photo-
graphed in habitat.
South Africa (Cape
Province)



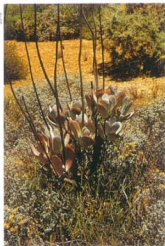
Cotyledon orbiculata L.

CRASSULACEAE

Shrub to 1 m tall, branched; leaves green to grey-green, often with red margins, covered with pruinose wax; inflorescence to 70 cm tall; flowers red or orange-red. Photograph by Charles H. Everson.

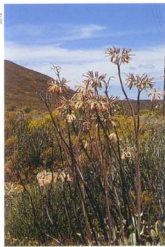
Cotyledon aiusana Dinter; *C. elata* Haw.; *C. nama* Haw.

Angola, Namibia, South Africa (Cape Province)

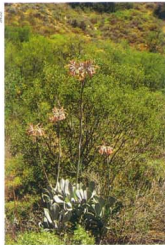


Cotyledon orbiculata
L. var. **spuria**
Toelken
CRASSULACEAE
Taller variety, with flowers
yellow-orange, occasion-
ally red. Plant photographed
in habitat.

Cotyledon spuria L.
Angola, Namibia, South
Africa (Cape Province)



Cotyledon orbiculata
L. var. **spuria** Toelken
CRASSULACEAE
Plant photographed in
habitat.



Cotyledon orbiculata
L. var. **spuria** Toelken
CRASSULACEAE
Plant photographed in
habitat.



Cotyledon undulata
Harv.

CRASSULACEAE
Shrub 50 cm tall; leaves
rhomboidal-ovate, 8-12 cm
long, 6 cm wide, white
pruinose; flowers orange-
yellow. Close-up of
flowers.
South Africa (Cape
Province)



Cotyledon velutina Hook.f.

CRASSULACEAE
Plant to 2 m tall; leaves green to grey-brown often with red margins, velvety, 5-10 cm long; flowers orange to copper with yellow margins.
South Africa (Cape Province)



Cotyledon velutina
Hook.f.

CRASSULACEAE
Plant photographed in
habitat.



Cotyledon velutina Hook.f.

CRASSULACEAE
The flowers.



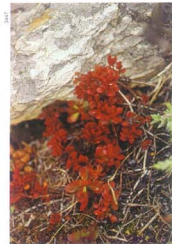
Crassula albiflora Sims

CRASSULACEAE
Shrublets to 40 cm tall; leaves papillose, ciliate, green to yellowish-green. Flowers white. A reputed synonym of *C. alpestris* Jacq.
Reclusa albiflora DC; *Crassula obtusilata* Thunb.
South Africa (Cape Province)



Crassula alstonii Marloth

CRASSULACEAE
Low plant 8-10 cm tall, densely leaved; leaves grey-green, obtuse or rounded, forming a spherical rosette 2 cm wide; flowers white-cream to pale yellow.
South Africa (Cape Province)



Crassula atropurpurea
(Haw.) A. Dietr.

CRASSULACEAE
Shrubs to 60 cm tall with
carious or woody bran-
ches; leaves glabrous or
papillose, 1.5-3 cm long,
0.6-2.3 cm wide, green to
deep red with horny mar-
gins; flowers cream. Plant
photographed in habitat.
South Africa (Cape
Province)



Crassula barbata Thunb.

CRASSULACEAE

Plant to 30 cm high when flowering; leaves arranged in rosettes, 1-3.5 cm long, 1.5-3.5 cm wide, grey-green with marginal white hairs; flowers white tinged with pink. Photograph by Charles H. Everson.
South Africa (Cape Province)



Crassula biplanata
Haw.

CRASSULACEAE

Much branched, 15-20 cm tall; leaves lanceolate 0.8-1.5 cm long, 0.1-0.2 cm wide, dark green; flowers white to cream. Plant photographed in habitat.
Crassula punctulata Schönland & Bak.
South Africa (Cape Province)



Crassula capitata Thunb. ssp. *thyrsofolia* (Thunb.) Toelken

CRASSULACEAE

Stems woody, leaves to 12 cm long, arranged in rosettes, green often spotted red, glabrous with marginal cilia; inflorescence 10-30 cm tall; flowers white tinged with pink. Plant photographed in habitat.
South Africa (Cape Province)



Crassula cephalophora Thunb.

CRASSULACEAE

Plant with several basal rosettes; leaves oblong-elliptic, 2.5 to 7 cm long, grey-green to yellowish-green; flowers yellowish. Reputed synonym of *C. nudicaulis* L.
South Africa (Cape Province)



Crassula coccinea L.

CRASSULACEAE

Shrub to 60 cm tall with reddish stem; leaves 1.5-2.5 cm long, 1-1.5 cm wide, with margins curved upwards, green to brownish; flowers scarlet red.
Rochia coccinea (L.) DC.
South Africa (Cape Province)



Crassula coccinea L.
CRASSULACEAE
Cultivated specimen.



Crassula columella Marloth & Schönland

CRASSULACEAE

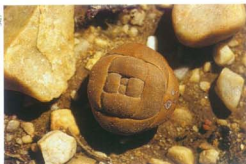
Shrub to 15 cm tall; stems 8-10 cm tall; leaves green to yellowish-green, tinged with red when grown in full sun, compressed; flowers greenish-white. Photograph by Anna Rosa Nicola.
South Africa (Cape Province)



Crassula columnaris Thunb.

CRASSULACEAE

Erect stems 0.3-1 cm tall; leaves 0.3-1.2 cm long, 1-2.5 cm wide, grey-green to brown, completely enveloping the short stem; flowers white to pale yellow often tinged with red. Photograph by Gaetano Palisano.
South Africa (Cape Province)



Crassula columnaris Thunb.

CRASSULACEAE

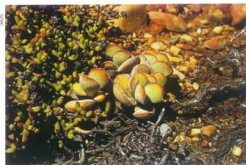
Plant photographed in habitat.



Crassula cooperi Regel

CRASSULACEAE

Forming dense low cushions; leaves oblanceolate or obovate 0.6-3.5 cm long, 0.3-1 cm wide, light green with marginal cilia; flowers white. A reputed subspecies of *C. exilis* Harvey.
Crassula beburii Hook.



Crassula cotyledonis Thunb.

CRASSULACEAE

Basal rosettes with woody stems to 20 cm tall; leaves 3-6 cm long, 1-2.5 cm wide, grey-green to yellowish-green, covered with hairs; flowers cream to pale yellow. Plant photographed in habitat.
Namibia

**Crassula cv.**

CRASSULACEAE

Cultivar with stems covered with compressed leaves, green to yellowish-green.

**Crassula cv. «Coralita»** ISI 1387

CRASSULACEAE

Cultivar with adpressed leaves in rows. (C. *suzumae* × C. *perfoliata* var. *juicaria*). Photograph by Anna Rosa Nicola. Garden origin**Crassula cv. «Blue Hale»**

CRASSULACEAE

Cultivar with branched stems and large bluish-green ovate leaves.

**Crassula cv. «Emerald»**

CRASSULACEAE

Cultivar with leaves in dense rosettes, dull green, covered with white papillae; flowers cream-yellowish. Garden origin

**Crassula cv. «Budda's Temple»**

CRASSULACEAE

A beautiful small cultivar with erect stem and adpressed green hairy leaves. Photograph by Gaetano Palisano.

**Crassula cv. «Hobbit»**

CRASSULACEAE

Cultivar related to C. *portulacae* and C. *lactea*. Leaves green, cup-shaped; flowers white. Garden origin



Crassula cv. «Moonglow»

CRASSULACEAE

Nice cultivar, with small leaves covering stems. Hybrid between *C. decrepita* var. *arata* × *perfoliata* var. *falcata*. Photograph by Anna Rosa Nicola. Garden origin



Crassula cv. «Morgan Beauty»

CRASSULACEAE

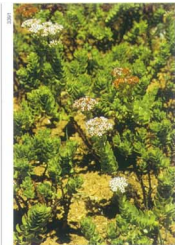
Compact cultivar (*C. falcata* × *C. mesembryanthemopsis*), leaves grey-green; flowers salmon-pink. Garden origin



Crassula cv. «Silver Springtime»

CRASSULACEAE

Small, beautiful cultivar; stems covered with compressed leaves, green to yellowish-green. Photograph by Anna Rosa Nicola. Garden origin



Crassula dejecta Jacq.

CRASSULACEAE

Shrubs to 40 cm tall; leaves 0.8-1.5 cm long, 0.4-1.3 cm wide, green to yellowish-green; flowers white. South Africa (Cape Province)



Crassula dejecta Jacq.

CRASSULACEAE

Flowering specimen



Crassula dejecta Jacq.

CRASSULACEAE

Young plant. Photograph by Anna Rosa Nicola.

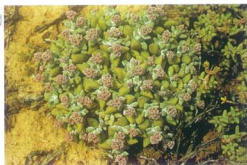
**Crassula deltoidea** Thunb.

CRASSULACEAE

Small shrub, rarely more than 8 cm tall; leaves rhombic to oblanceolate, 1-1.5 cm long, 0.4-0.8 cm wide, grey-green; flowers white.

Crassula rhomboides N.E.Br.

South Africa (Cape Province, Little Namaqualand)

**Crassula deltoidea** Thunb.

CRASSULACEAE

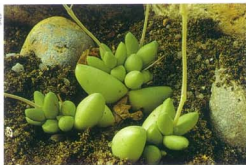
Specimen photographed in habitat by Charles H. Everson.

**Crassula elegans** Schönland

CRASSULACEAE

Plant much branched to 8 cm tall; leaves 0.5-1.5 cm long, 0.4-0.8 cm wide, closely packed, glabrous or covered with fine hairs, green to deep red; flowers cream or white. Plant photographed in habitat by Charles H. Everson.

Namibia, South Africa (Cape Province)

**Crassula elegans** Schönland

CRASSULACEAE

Cultivated specimen. Photograph by Anna Rosa Nicula.

**Crassula exilis** Harv. ssp. *sedifolia* (N.E.Br.) Toelken

CRASSULACEAE

Plant much branching; leaves 0.4-1.5 cm long, 0.2-0.3 cm wide, with a row of dark spots along the ciliate margins; flowers white.

South Africa (Cape Province)

**Crassula expansa** Dryand.

CRASSULACEAE

Decumbent branches to 40 cm long; leaves 0.6-2 cm long, 0.2-0.4 cm wide, green or yellowish-green; flowers white tinged with red. Plant photographed in habitat.

South Africa (Namaqualand)



Crassula falcata Wendl.

CRASSULACEAE

Plant to 1 m tall, rarely branched; leaves 7-10 cm long, 3-4 cm wide, grey-green; flowers red. Reputedly a subspecies of *C. perfoliata* L. Close-up of flowers.

Rochus falcata DC.

South Africa (Cape Province)



Crassula garibina
Marloth & Schönland

CRASSULACEAE

Small shrublets to 25 cm tall with swollen base and spreading branches; leaves 2-4 cm long, 1 cm wide, grey-green to dull brown covered with fine hairs; flowers cream-white.

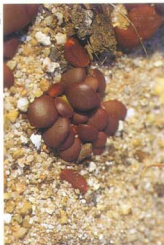
Namibia, South Africa (Cape Province)



Crassula garibina Marloth & Schönland

CRASSULACEAE

Close-up of flowers.



Crassula glomerata
Berg.

CRASSULACEAE

Annual plant, branches to 15 cm tall; leaves 0.6-1 cm long, 1-3 cm wide, green to brown; flowers white.

South Africa (Cape Province)



Crassula grisea
Schönland

CRASSULACEAE

Small plant, rarely more than 15 cm tall; leaves linear-lanceolate 2-8 cm long, 0.8 cm wide, green to brown, hairy; flowers white.

Crassula bakeri Schönl.
South Africa (Cape Province, L. Namaqualand)



Crassula hemisphaerica
Thunb.

CRASSULACEAE

Plant to 15 cm tall; leaves flat, adpressed, 1.5-2 cm long, 1.5-2.5 cm wide, arranged in rosettes; leaf margins with white hairs; flowers white. A flowering stem.

Crassula alvodes Dryand
South Africa (Cape Province)

**Crassula heterotricha** Schinz

CRASSULACEAE

Plant to 40 cm tall, branched; leaves lanceolate to oblong, 7-15 cm long, 1-1.5 cm wide, light green; flowers white. Reputedly a subspecies of *C. perfoliata* L.

South Africa (Natal)

**Crassula hirtipes** Harv.

CRASSULACEAE

Stems spreading to 15 cm long; leaves 0.8-1.5 cm long, 0.4-0.7 cm wide, grey-green with short hairs; flowers cream to yellow.

Crassula lustrix Schönland

South Africa (Cape Province)

**Crassula hystrix** Schönland

CRASSULACEAE

Low subshrub 2-3 cm tall; leaves 0.6-0.8 cm long, 0.4-0.6 cm wide, grey-green with hairs; flowers cream. A reputed synonym of *C. hirtipes* Harv. Photograph by Anna Rosa Nicola.

**Crassula lanuginosa** Harv.

CRASSULACEAE

Little subshrub to 15 cm tall; leaves semi-cylindrical, soft, hairy, green or grey-green; flowers white.

South Africa (Cape Province)

**Crassula littlewoodii** Friedr.

CRASSULACEAE

Low tufted plant; leaves lanceolate or elliptic, 2-4 cm long, 0.1 cm wide, covered with hairs; flowers white.

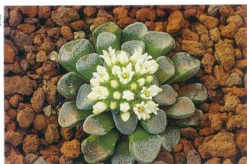
Namibia, South Africa

**Crassula mesembryanthemopsis** Dinter

CRASSULACEAE

Short stem with leaves arranged in rosettes of 4-8 pairs of leaves; leaves 1-2 cm long, 0.3-0.6 cm wide with truncate tips; flowers white.

Namibia



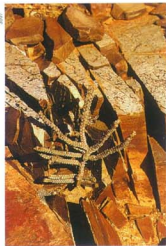
Crassula mesembryanthemopsis Dinter

CRASSULACEAE
A flowering specimen.



Crassula muscosa Thunb.

CRASSULACEAE
Slender branched stems to 30 cm tall; leaves small, closely arranged in rows, grey-green to yellowish-green; flowers small, yellowish-white. Photograph by Charles H. Everson.
Crassula lycosidiflora Lam.
Namibia, South Africa (Cape Province)



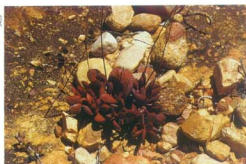
Crassula muscosa Thunb.

CRASSULACEAE
Specimen growing among rock crevices. Plant photographed in habitat.



Crassula muscosa Thunb.

CRASSULACEAE
Cristated specimen.



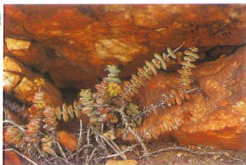
Crassula nudicaulis L.

CRASSULACEAE
Densely leafy branched stem; leaves semi-cylindrical 0.2-0.8 cm long, 0.6-1.5 cm wide, green to reddish-brown; flowers cream. Plant photographed in habitat.
South Africa (Cape Province)



Crassula pellucida L.

CRASSULACEAE
Decumbent or prostrate stems to 60 cm long; leaves 1-2.5 cm long, 0.5-1.2 cm wide, green with brown stripes and papillose red margins; flowers white tinged with pink.
South Africa (Cape Province)

**Crassula perforata** Thunb.

CRASSULACEAE

Small shrub with branches to 60 cm long; leaves 0.8-2 cm long, 0.3-1.5 cm wide, greyish-green constricted towards base and fused to the opposite one; flowers cream to pale yellow. Plant photographed in habitat.

Crassula anthurax E.Mey., *C. conjuncta* N.E.Br., *C. perfusa* Lam., *C. perforata* Scop. South Africa (Cape Province)

**Crassula phyturus** Mildbr.

CRASSULACEAE

Small branched plant; leaves semi-cylindrical or linear, 0.6-0.7 cm long, 0.2 cm wide, green; flowers white.

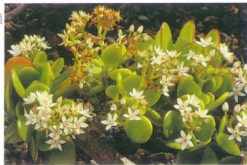
Tropical Africa

**Crassula picturata** Boom

CRASSULACEAE

Plant much branched forming dense cushions; leaves 0.6-3.5 cm long, 0.3-1 cm wide, green with dark spots and marginal cilia; flowers white to pale pink. A reputed synonym of *C. exilis* Harv. subspecies *cooperi* (Regel) Toebken. Photograph by Anna Rosa Nicola.

South Africa (Cape Province)

**Crassula portulacea** Lam.

CRASSULACEAE

Branched shrub to 1.5 m tall; old leaves caducous, new leaves glossy green with red margins; flowers white. A reputed synonym of *C. oruta* (Mill.) Druce.

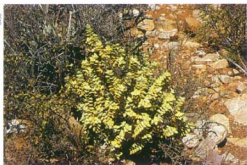
Crassula lucens Gram., *C. nitida* Schönland South Africa (Cape Province to Transvaal)

**Crassula remota** Schönland

CRASSULACEAE

Small branched shrub; leaves 2 cm long, 1.2 cm wide, grey-green with fine hairs; flowers cream-white. A reputed synonym of *C. subaphylla* Harv.

South Africa (Cape Province)

**Crassula rupestris** Thunb.

CRASSULACEAE

Shrubs to 50 cm tall, much branched; leaves 0.5-1.5 cm long, 0.3-1 cm wide, glaucous-green to reddish-brown with red or yellow horny margins; flowers white tinged with pink or red. Plant photographed in habitat.

Crassula multicaulis N.E.Br., *C. perfusa* Harv. South Africa (Cape Province)



Crassula rupestris Thunb.
CRASSULACEAE
A large bush in habitat.



Crassula rupestris
Thunb.
CRASSULACEAE
Another specimen in habitat.



Crassula sarcocaulis Eckl. & Zeyh.
CRASSULACEAE
Shrub to 60 cm tall; leaves linear lanceolate, 1-4 cm long, 0.1-0.8 cm wide, dark green; flowers white to cream. Cultivated specimen.
South Africa (Cape Province)



Crassula sarcocaulis Eckl. & Zeyh.
CRASSULACEAE
Plant photographed in habitat.



Crassula sarcocaulis
Eckl. & Zeyh. ssp.
rupicola Toelken
CRASSULACEAE
Subspecies forming dense shrubs; stems very fleshy; leaves linear.
Plant photographed in habitat.



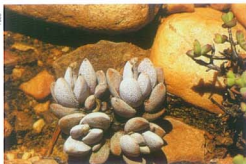
Crassula subulata L.
CRASSULACEAE
Plant to 15 cm tall; leaves lanceolate, usually deciduous at the end of season. A reputed synonym of *C. rhodesica* ssp. *transvaalensis* (Kuntze) Toelken. Plant photographed in habitat.
Namibia

**Crassula tecta** Thunb.

CRASSULACEAE

Plant with basal rosettes, much branched, forming clumps; leaves 2-3.5 cm long, 0.5-1.5 cm wide, grey-green, rounded, covered with papillae; flowers white or cream. Photograph by Anna Rosa Nicola.

Crassula decipiens N.E.Br.
South Africa (Cape Province)

**Crassula tecta** Thunb.

CRASSULACEAE

Plant photographed in habitat.

**Crassula volkensii** Engl.

CRASSULACEAE

Plant 10-12 cm tall, symmetrically branching; leaves lanceolate, fleshy, 2-2.5 cm long, 0.5-0.6 cm wide; flowers white.

Tanganyika

**Cremmosedum** cv. «Crocodile» ISI 1641

CRASSULACEAE

Nice cultivar (*Cremmophila* «*Sedum*») with scaly stems and green leaves. Garden origin.

**Cremmosedum** cv. «Little Gem» ISI 1256

CRASSULACEAE

Another beautiful cultivar, mat forming; leaves green in small rosettes. Photograph by Anna Rosa Nicola.

Garden origin

**Cussonia paniculata**
Eckl. & Zeyh.

ARALIACEAE

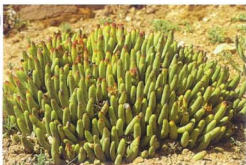
Tree to 4 m tall with rough bark; leaves digitate, oblong in juvenile plants, ovate in adult plants; flowers white.
Southern Africa

3306



Cussonia paniculata
Eckl. & Zeyh.
ARALIACEAE
Young specimen.

3307



Cylandrophyllum dyeri L.Bolus
MESEMBRYANTHEMACEAE
Branches to 8 cm long, forming dense cushions; leaves erect, to 7 cm long, green to grey-green; flowers pale pink.
South Africa (Cape Province)

3301



Cyphostemma bainesii
(Hook.f.) Desc.
VITACEAE
Stems swollen, bottle-shaped; to 1 m tall; leaves tripartite, green, lanate; flowers greenish-yellow.
Namibia

3308



Cyphostemma bainesii
(Hook.f.) Desc.
VITACEAE
A very well grown specimen.

3405



Cyphostemma currori (Hook.f.) Desc.
VITACEAE
Stem over 4 m tall, branching at the top; bark yellow, peeling; leaves tripartite; flowers yellowish.
Angola, Namibia

3133



Cyphostemma elephantopus Desc.
VITACEAE
Large subterranean caudex, ovoid to disk-shaped, to 70 cm tall and 50 cm in diameter; main stem to 1 m tall with climbing branches to 2 m long; leaves 3-4 cm long; flowers yellowish.
Madagascar



Cyphostemma juttae (Hook.f.) Desc.

VITACEAE

Stem to 2 m tall, forming a massive caudex with thick branches; stem covered with yellow bark and papery skin falling off with age; leaves to 20 cm long, 6 cm wide; flowers greenish-yellow; red berries.

Namibia



Cyphostemma laza
Desc.

VITACEAE

Stem to 1 m tall, swollen; stems 3-5 m long, prostrate or climbing; leaves to 15 cm long; flowers yellowish. Young specimen.

Madagascar



Dasyliiron wheeleri
S.Watson

AGAVACEAE

Trunk to 1.5 m tall; leaves yellowish-green to rust-brown, in rosette, to 90 cm long, glaucous, margins spiny; inflorescence to 5 m tall; flowers cream-white tinged with green.

USA (Arizona, Texas)



Decarya madagascarensis Choux

DIDIEREACEAE

Arborescent plant to 6 m tall; stem with spreading thorny branches; leaves small, fleshy, 5 mm long and 3 mm wide, arising below the thorns; inflorescence 5 cm long; flowers small, pale yellow.

Madagascar



Delosperma ashtonii L.Bolus

MESEMBRYANTHEMACAEAE

Low shrub with tuberous roots; branches 3-5 cm long, green with soft hairs; leaves lanceolate to linear, green to greyish-green, 4-5 cm long; flowers purplish.

South Africa (Transvaal)



Delosperma bosseranum Marais

MESEMBRYANTHEMACAEAE

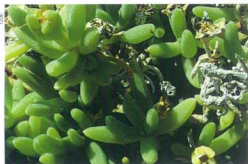
Erect or decumbent stems 5-20 cm long; tuberous root; leaves to 2 cm long, green, papillae and red tip; flowers white.

**Delosperma davii** N.E.Br.

MESEMBRYANTHEACEAE

Stems 7-15 cm long, weak; leaves ascending, to 6 cm long, green to greyish-green, upper surface glaucous; flowers white.

South Africa (Cape Province)

**Delosperma harazianum** (Defileurs) H.H.Poppend. & H.D. Hilent.

MESEMBRYANTHEACEAE

Plant forming clumps to 12 cm in diameter; leaves to 1.8 cm long and 4 mm wide, green with small papillae and reddish tips; flowers white to pink-purple.

**Delosperma litorale** (Kensit) L.Bolus

MESEMBRYANTHEACEAE

Stems elongate, creeping, to 40 cm long; leaves triangular, 3 cm long, bluish-green, edges whitish; flowers white.

South Africa (Cape Province)

**Delosperma minimum** Lavis

MESEMBRYANTHEACEAE

Plant to 15 cm tall; branches spreading, thick, green to reddish, leaves triangular; flowers purple-red.

South Africa (Cape Province)

**Delosperma** sp. (van Jaarsveld & Sajevo 14653)

MESEMBRYANTHEACEAE

An unidentified species photographed in habitat (Karoo).

**Delosperma tradescantioides** (Berger) L.Bolus

MESEMBRYANTHEACEAE

Low shrub, freely branching; branches rooting at the nodes, grey-brown; leaves 2-3 cm long, 1 cm wide, 1-2 mm thick; flowers white.

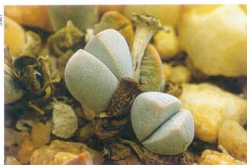
South Africa (Cape Province)

**Didierea trollii** Capuron & Rauh.

DIDIERACEAE

Young stems horizontal, forming a bush 50 cm tall from which adult stems develop into trunks; leaves 1-2 cm long, grouped at the centre of the thorns; flowers greenish-yellow.

Madagascar

**Dinterantus microspermus** Schwantes

MESEMBRYANTHEACEAE

One to many headed plant; branches to 5 cm long, covered with remains of old dry leaves; leaves in pair, united for half of their length to 3 cm long, reddish-grey-green to grey-violet; flowers yellow with reddish tips.

Namibia

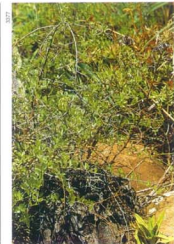
**Dioscorea elephantipes** (L'Hér.) Engl.

DIOSCOREACEAE

Caudex semi-globose to 1 m in diameter; bark separated into knobs; stems twining, 1-2 m long; leaves green, triangular; flowers yellow.

Tetradinaria elephantipes (L'Hér.) Lindl.

Southern Africa

**Dioscorea hemicrypta**

Burkill

DIOSCOREACEAE

Caudex mostly subterranean, with polygonal knobs; stems erect with thinner branches; leaves heart-shaped; flowers inconspicuous, yellowish.

South Africa (Cape Province)

**Dioscorea sylvatica**

DIOSCOREACEAE

Caudex flattened; stems spreading; leaves 6 cm long and 6 cm wide, heart-shaped; flowers greenish.

Southern Africa

**Dipcadi brevifolium** (Thumb.) Fourc.

LILIACEAE

Bulb 5-10 cm in diameter; leaves 15-30 cm long, triangular to linear; inflorescence to 60 cm tall; flowers pale green tinged with red.

Photograph by Charles H. Eversow.

Southern Africa

1034



Diplocyatha ciliata (Thunb.) N.E.Br.

ASCLEPIADACEAE

Plant forming clumps; branches 3-5 cm long, 4-angled; flowers 7-8 cm in diameter, yellowish-brown; papillose, hairy.

Stapelia ciliata Thunb.; *Tromotricha ciliata* (Thunb.)

South Africa (Cape Province)

4111



Dischidia astephana Scott. ex King & Gamble

ASCLEPIADACEAE

Stem hairy; leaves green, purple below, 2.5 cm long and 2.5 cm wide; flowers yellow-orange to red with blue marks. Photograph by Charles H. Everson.

Borneo, Malaysia

4110



Dischidia rafflesiana Wall.

ASCLEPIADACEAE

Stems 50-90 cm long, thin, cylindrical, climbing; leaves opposite, fleshy-green; flowers yellowish.

Considered a synonym of *D. major* (Vahl) Merr.

Photograph by Charles H. Everson.

Malaysia, Australia.

1032



Dorstenia sp.

MORACEAE

Flower of an unidentified species with small caudex, erect branches and green hairy leaves.

1037



Dorstenia zanzibarica Oliv.

MORACEAE

Stems erect; root tuberous; leaves to 20 cm long, variable in shape; flowers dish-like, greenish.

Kenya, Tanzania, Zanzibar

1030



Dracaena draco (L.) L.

AGAVACEAE

Tree to 10 m tall; stem thick, unbranched until first inflorescence is produced, then with several spreading branches; leaves 30-60 cm long, arranged in rosettes at ends of branches; flowers white, tinged with red outside. Plant photographed in habitat.

Canary Islands (Tenerife, Palma, Gran Canaria)



Drosanthemum crassum L. Bolus

MESEMBRYANTHEMACEAE

Shrub; stem erect to prostrate; leaves 1-2 cm long; flowers white.
South Africa (Cape Province)



Dudleya affinis densiflora

CRASSULACEAE

Unrecognized species probably close to *D. densiflora* (Rose) Moran, with short stems, few branches; leaves linear, farinose, arranged in rosettes; flowers pink.
USA (California)



Drosanthemum speciosum
(Haw.) Schwantes

MESEMBRYANTHEMACEAE

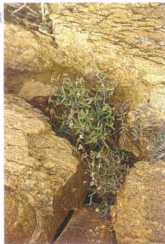
Shrub to 60 cm tall, branches grey-green, spotted; leaves 1-1.5 cm long, green with crystalline papillae; flowers orange-red. Plant photographed in habitat.
South Africa (Cape Province)



Dudleya affinis saxosa

CRASSULACEAE

Unrecognized species close to *D. saxosa* (M.E. Jones) Br. & R. with short stem, caespitose; leaves in rosettes; flowers yellow marked orange-red.
USA (California)



Drosanthemum speciosum
(Haw.) Schwantes

MESEMBRYANTHEMACEAE

Plant in habitat.



Dudleya antonyi Rose

CRASSULACEAE

Stem to 80 cm long; 30-90 leaves in rosettes, 8-25 cm long, 3-7 cm wide, whitish farinose; floral stem 40-100 cm tall; flowers red.
Mexico (Baja California)

**Dudleya attenuata** (S.Watson) Moran

CRASSULACEAE

Stem branching and forming clumps; rosette 2-5 cm in diameter with 5-20 leaves, linear to lanceolate; flowers yellow-red.

Mexico

**Dudleya polita** N.E.Br. var. *parviflora* White & Sloane

ASCLEPIADACEAE

Stems erect or decumbent, hexagonal, toothed; flowers purplish-brown mottled with yellowish-green.

Botswana, South Africa (Transvaal), Zimbabwe

**Dudleya reclinata** (Masson) Haw.

ASCLEPIADACEAE

Stems to 10 cm long, 4-6-angled, green, with tuberculate teeth; flowers green-brown.

Stapeia reclinata Masson

South Africa (Cape Province)

**Dyckia rariflora** Schult.

BROMELIACEAE

Leaves arranged in a rosette, 20-25 cm long, 1-2 cm wide at base, narrowing towards the pungent tip, green with whitish vertical lines on the lower surface, small marginal teeth; inflorescence 40-60 cm, flowers orange-yellow.

Central Brazil

**Echeveria affinis** E.Walther

CRASSULACEAE

Leaves in dense rosettes, oblanceolate, acuminate, olive-brownish, to 5 cm long and 2 cm wide; flowers scarlet red.

Mexico

**Echeveria albicans** E.Walther

CRASSULACEAE

Rosettes stemless; leaves 3-5 cm long, 1.2-2.5 cm wide, glaucous-pruinose; flowers pink-red at base, yellow-green at apex.

Mexico



Echeveria amoena De Smet

CRASSULACEAE

Stemless or short stemmed rosettes, leaves arranged in rosettes, oblong, bluish-green, somewhat pruinose, 2-2.5 cm long and 6-10 mm wide; flowers yellow-red to red.

Echeveria pusilla A.Berger.

Mexico



Echeveria atropurpurea (Baker) E.Morren

CRASSULACEAE

Stems to 20 cm long; leaves in rosettes, obovate to spatulate, 10-14 cm long and 3-5 cm wide, dark red; flowers red. A cristate form.

Echeveria sanguinolenta Hort.

Mexico



Echeveria chihuahuensis Poelln.

CRASSULACEAE

Rosette stemless; leaves to 4 cm long and 2 cm wide, pruinose-grey with red edges; flowers red.

Mexico



Echeveria cv. «Blackprince»

CRASSULACEAE

Cultivar with brownish leaves arranged in dense rosettes.

Garden origin



Echeveria cv. «Ebony»

CRASSULACEAE

Cultivar with leaves in compact rosettes; leaves grey-green with acute brown tips.

Garden origin



Echeveria cv. «Lola»

CRASSULACEAE

Cultivar with small rosettes; leaves pale green.

Garden origin



Echeveria cv. «Perle von Nürberg»

CRASSULACEAE

Rosette to 15 cm in diameter; leaves bluish tinged with pink. A hybrid of *E. gibbiflora* var. *metallica* × *E. potosina*. Garden origin



Echeveria desmetiana De Smet

CRASSULACEAE

Rosette stemless or short stemmed; leaves sub-ovate to oblong, 3-7 cm long and 2-4 cm wide, white-pruinose often with reddish margins; flowers red. A reputed synonym of *E. puecockii* Croucher. Mexico



Echeveria difractans Kinnach

CRASSULACEAE

Rosettes 8-10 cm in diameter; leaves oblong-lanceolate, flesh-coloured; flowers orange-red. Mexico



Echeveria gigantea Rose & Purpus

CRASSULACEAE

Stems to 30 cm high; leaves in rosettes 25 cm long and 15 cm wide, rounded at the tips, light green to grey, pruinose, margins red; flowers red. Mexico



Echeveria harmsii (Rose) MacBryde

CRASSULACEAE

Small sub-shrub; leaves in rosettes, lanceolate-spatulate, green, 2-3 cm long and 1 cm wide; flowers red. *Echeveria elegans* A. Berger. Mexico



Echeveria lilacina Kinnach & Moran

CRASSULACEAE

Short stemmed plant 6-8 cm high and 10-20 cm in diameter; leaves obtuse, 5-6 cm long and 2-4 cm wide, brownish-olive green with violet-white to pinkish-white waxy powder; flowers coral-pink. Mexico

**Echeveria lindsayana** E. Walther

CRASSULACEAE

Dense rosettes; leaves obovate to oblong with acuminate apex, 5-9 cm long, 3-4 cm wide, green tinged purplish; flowers orange-yellow.

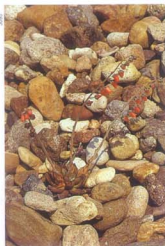
Mexico

**Echeveria minima** Meyran

CRASSULACEAE

Rosette short stemmed; leaves 1-2 cm long, glaucous-green with margins and tip red; inflorescence to 50 cm high; flowers pink below, red above.

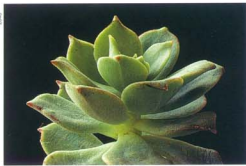
Mexico

**Echeveria moranii**
E. Walther

CRASSULACEAE

Rosette short stemmed, 2-3 cm high; leaves to 6 cm long and 3 cm wide, green with brown spots; flowers red.

Mexico

**Echeveria mucronata** (Baker) Schltr.

CRASSULACEAE

Rosette short stemmed; leaves 7-10 cm long and 2.5 cm wide, green; flowers reddish-yellow.

Central Mexico

**Echeveria obtusifolia** Rose

CRASSULACEAE

Rosette on short stem; leaves obovate-lanceolate, 7.5-10 cm long and 3.5 cm wide, light green; flowers red.

Echeveria scopulorum Rose

Mexico

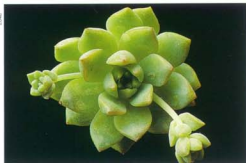
**Echeveria paniculata** A. Gray

CRASSULACEAE

Rosette stemless; leaves 6-10 cm long and 1.5-2 cm wide, dark green to blue-green, often spotted; flowers reddish to pale yellow.

Echeveria schaffneri Rose

Mexico



Echeveria prolifica Moran & E.Mey.

CRASSULACEAE

Stemless plant forming small clumps; leaves bluish, to 8 cm long, with dark margins.

Mexico



Echeveria pulvinata Rose

CRASSULACEAE

Subshrub with silvery to brownish felted stems and leaves; leaves 4-5 cm long; flowers red or yellow.

Mexico



Echeveria rubromarginata Rose

CRASSULACEAE

Stems short, more evident in age; leaves 6-12 cm long to 9 cm wide, green to grey, pruinose with red margins; flowers light pink.

Mexico



Echeveria runyonii Rose

CRASSULACEAE

Rosette stemless or short stemmed; leaves 6-8 cm long and 3-4 cm wide, deep green to bluish, upcurved; flowers pink. The photograph shows a cultivated form: cv. 'Topsy-turvy' ISI 1647.

Mexico



Echeveria schaffneri (S.Watson) Rose

CRASSULACEAE

Rosette short stemmed; leaves light green to reddish, 5-7 cm long and 1.1 cm wide; flowers red. A reputed synonym of *E. irretifolia* DC.

Mexico



Echeveria setosa Rose & Purpus

CRASSULACEAE

Rosette stemless with numerous offsets in older plants; leaves 7-8 cm long, dark green covered with dense white hairs; flowers red-yellow.

Mexico



Echeveria setosa Rose & Purpus

CRASSULACEAE

A cristate form of garden origin.



Echeveria shaviana E. Walther

CRASSULACEAE

Rosette short stemmed, to 10 cm in diameter; leaves 4-8 cm long, glaucous-green with undulate margins, toothed near the apex; flowers pink.
Mexico



Echeveria sp.

CRASSULACEAE

Unidentified species from Mexico (Dolores Hidalgo) with long narrow leaves.
Mexico



Echeveria sp.

CRASSULACEAE

Unrecognized species found near Saltillo (Nuevo Leon). Leaves arranged in rosettes, glaucous-pruinose with red margins. Plant photographed in habitat by Alessandro Mosco.
Mexico



Echeveria sp.

CRASSULACEAE

Unrecognized species found at Maravillas (San Luis Potosi). Stemless; leaves in loose rosettes, green; flowers orange-red. Plant photographed in habitat by Alessandro Mosco.
Mexico



Echeveria sp.

CRASSULACEAE

Another unrecognized species photographed at San Roberto (Nuevo Leon). Stems short; leaves glaucous-green spotted with red; flowers orange-red. Plant photographed in habitat by Alessandro Mosco.
Mexico



Echeveria sp.
CRASSULACEAE

Close-up of leaves of San Roberto's species. Plant photographed in habitat by Alessandro Mosco, Mexico



Echeveria strictiflora A.Gray

CRASSULACEAE

Rosette stemless or with very short stem; leaves glaucous when young, then dark olive green, 7-9 cm long and 1.5-2 cm wide; flowers orange-yellow; Mexico, USA (Texas)



Echeveria subalpina Rose & Purpus

CRASSULACEAE

Rosette stemless; leaves greenish-glaucous, 7-14 cm long and 2 cm wide; flowers orange-yellow.

Echeveria skottii Weddermann
Mexico



Echeveria subalpina

CRASSULACEAE

Flowers.



Echeveria subrigida
(Rob. & Seaton) Rose

CRASSULACEAE

Rosette short stemmed, solitary; leaves grey-white pruinose with red margins, to 25 cm long and 10 cm wide; flowers red.

Echeveria angustata V. Poelln.; *E. palmieri* Rose
Mexico



Echeveria subsessilis Rose

CRASSULACEAE

Rosette short stemmed; leaves green-pruinose, 3 cm long and 3.5 cm wide; flowers pink.

Echeveria pancocki Poelln.
Mexico



Echeveria tenuifolia E.Walther

CRASSULACEAE

Rosette with short stem; leaves linear-lanceolate, to 11 cm long and 1-1.2 cm wide; green to brownish; flowers red-yellow.

Mexico



Echeveria tolimanensis Matuda

CRASSULACEAE

Rosette stemless; leaves oblong-acuminate, pruinose, 4-8.5 cm long, 2-5.5 cm wide; flowers golden yellow.

Mexico



Echinopsis sp.

ASCLEPIADACEAE

Dwarf plant much branched; stems tuberculate, 8-10-angled; flowers yellow.

Somalia



Erythrina flabelliformis
Kearney

LEGUMINOSAE

Shrub or small tree to 5 m high; leaflets papery, triangular, to 8 cm long, rounded; flowers bright red.

Young plant.
North America



Euphorbia abyssinica
Raetusch.

EUPHORBACEAE

Plant to 5 m tall and over; stems 8-angled, winged; margins grey-brown, with thorns in pairs; leaves 4-5 cm long at the tips of the branches; inflorescence with yellowish cyathia.

Eritrea, Ethiopia.
CITES App. II



Euphorbia actinoclada S.Carter

EUPHORBACEAE

Thick fleshy root and main stem to 5 cm high and 2 cm thick; branches erect, then spreading, to 15 cm long, dark green with lighter longitudinal stripes; spines greyish-brown; inflorescence reddish.

Ethiopia, Kenya

CITES App. II

1031



Euphorbia aeruginosa
Schweick

EUPHORBIAEAE

Small caudex with numerous branches from base; branches bronze-green, 15 cm long, 4-5-angled; thorns to 7 mm long; inflorescence with yellow cyathia at ends of stems.

South Africa (Transvaal)
CITES App. II

2034



Euphorbia aggregata A.Berger

EUPHORBIAEAE

Stems to 70 cm tall, branching from the base; branches 9-angled, with thorns 1-2 cm long; inflorescence with reddish cyathia.

Euphorbia emongona A.Berger
South Africa (Cape Province)

CITES App. II

2035



Euphorbia albertensis N.E.Br.

EUPHORBIAEAE

Caudex cylindrical, to 10 cm long; branches numerous from the apex of the caudex, erect, later spreading, with persistent remains of peduncles 1-2 cm long; inflorescence with green cyathia.

South Africa (Cape Province)

CITES App. II

2036



Euphorbia arida N.E.Br.

EUPHORBIAEAE

Stems to 5 cm high; branches numerous, spineless, tuberculate; leaves caducous, persistent peduncles; inflorescence at the tips of branches, green cyathia.

South Africa (Cape Province)

CITES App. II

2040



Euphorbia atrispina N.E.Br.

EUPHORBIAEAE

Plant branching from the base and forming dense cushions to 20 cm high; branches 6-9-angled, dark dull green with a whitish coating; leaves rudimentary, deciduous; peduncles persistent, to 2 cm long; inflorescence with dark purple or purple-brown cyathia. Plant photographed in habitat.

South Africa (Cape Province)

CITES App. II

2045



Euphorbia atrispina
N.E.Br.

EUPHORBIAEAE

Young specimen. Plant photographed in habitat.
CITES App. II

**Euphorbia atropurpurea** Brouss.

EUPHORBIAEAE

Shrub; stems brown, succulent; leaves 5-9 cm long crowned at apex of stems, grey-green; inflorescence with reddish-brown cyathia, capsule dark red or brown. Plant photographed in habitat.

Canary Islands (Tenerife)

CITES App. II

**Euphorbia balsamifera** Aiton

EUPHORBIAEAE

Shrub up to 2 m high; branches grey, spineless; leaves 2.5 cm long arranged in rosettes at branch apices; inflorescence with yellow cyathia. Plant photographed in habitat.

Canary Islands (Tenerife, Gomera, La Palma, Gran Canaria)

CITES App. II

**Euphorbia atropurpurea** Brouss.

EUPHORBIAEAE

Inflorescence. Plant photographed in habitat.

CITES App. II

**Euphorbia balsamifera** Aiton

EUPHORBIAEAE

Inflorescence with flowers and unripened fruit. Photographed in habitat.

CITES App. II

**Euphorbia avasmontana**
Dinter

EUPHORBIAEAE

Plant to 2 m high; stems branching from the base, yellowish-green; spines in pairs; leaves rudimentary, caducous; inflorescence with yellow cyathia. Plant photographed in habitat.

Namibia, South Africa (Cape Province)

CITES App. II

**Euphorbia beharensis** Leandri

EUPHORBIAEAE

Tuberous root; branches 30-50 cm long, thin, spiny; leaves green, 2-5 cm long; inflorescence on short peduncles from branch apices.

Madagascar

CITES App. II

***Euphorbia bongolavaensis* Rauh**

EUPHORBACEAE

Shrub to 1 m high; stem 30–40 cm long, covered with grey bark; branches erect; leaves variable in size and shape, to 6.5 cm long, with red petiole; inflorescence with yellow cyathia.

Madagascar

CITES App. II

***Euphorbia bourgaeana* Gay ex Boiss.**

EUPHORBACEAE

Shrub up to 1.5 m tall, stems light brown; leaves lanceolate, glaucous-green, arranged in rosettes; inflorescence with yellowish-green cyathia, capsule light brown or dark red.

Canary Islands (Tenerife)

CITES App. II

***Euphorbia bourgaeana* Gay ex Boiss.**

EUPHORBACEAE

Inflorescence.

CITES App. II

***Euphorbia brakdamensis* N.E.Br.**

EUPHORBACEAE

Short caudex; branches to 15 cm long, tuberculate, spineless, persistent peduncles to 5 cm long; tubercles arranged in spiral rows; leaves to 1.5 cm long, bluish; inflorescence with green cyathia.

Namibia, South Africa (Cape Province)

CITES App. II

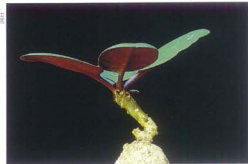
***Euphorbia brevirama* N.E.Br.**

EUPHORBACEAE

Caudex conical, to 8 cm in diameter, tuberculate; branches short, dull green; leaves inconspicuous, deciduous; peduncles green, persistent, woody and black when ageing; inflorescence with green cyathia.

South Africa (Cape Province)

CITES App. II

***Euphorbia brunellii* Chiov.**

EUPHORBACEAE

Tuberous root 5 cm long and 3 cm wide continuing into a long tap-root; leaves to 8 cm long and 3.5 cm wide; inflorescence on peduncles 2 cm long, cyathia pinkish.

Euphorbia rubella Agnew; *E. rubella* Pax var. *brunellii* (Chiov.) Bally
Kenya, Uganda

CITES App. II

**Euphorbia cactus**

Ehrenb. ex Boiss.

EUPHORBIAEAE

Shrub up to 3 m high; green with light green bands, 3-4-angled, stems 7-10 cm in diameter with compressed, undulate edges; leaves rudimentary, caducous; spines in pairs 1-4 cm long; cyathia green, later dark red.

Arabia, Eritrea
CITES App. II

**Euphorbia «cap-manambabensis»**

EUPHORBIAEAE

Probably a new species related to *E. aureo-ovoidiflora* Rauh. Shrub to 70 cm tall, much branched; stems 8-angled; leaves succulent, deciduous; inflorescence yellow to light green.

Madagascar

CITES App. II

**Euphorbia canariensis** L.

EUPHORBIAEAE

Shrub with numerous 4-6-angled branches to 3 m high (12 m in habitat) arising from base, pairs of small spines; rudimentary caducous leaves; inflorescence on short peduncle with greenish-red cyathia. Plant photographed in habitat.

Canary Islands (La Palma, Hierro, Gomera, Tenerife, Gran Canaria, Fuerteventura, Lanzarote)
CITES App. II

**Euphorbia capsaintemariensis** Rauh

EUPHORBIAEAE

Subterranean caudex 5-10 cm in diameter; branches tipped with a rosette of green to reddish-green leaves, to 2.5 cm long with undulate edges; inflorescence with pale yellow to olive green cyathia.

Madagascar

CITES App. I

**Euphorbia candelabrum**

Tremaut

EUPHORBIAEAE

Branched tree up to 10 m high; 4-angled branches with constricted parts, 2-3 cm long; rudimentary caducous leaves; 2-4 mm long spines; inflorescence up to 2 cm long; inflorescence with golden-green cyathia.

Sudan
CITES App. II

**Euphorbia capsaintemariensis** Rauh

EUPHORBIAEAE

Flowers.

CITES App. I

**Euphorbia capuroni** Ursch & Leandri

EUPHORBIAACEAE

Shrub to 1 m high; stems with thorns to 2 cm long; leaves 3-5 cm long at the end of the stems; inflorescence with several cyathia, green.

Madagascar

CITES App. II

**Euphorbia clavaroides** Boiss.

EUPHORBIAACEAE

Caudex short, thick; branches numerous, tuberculate, 2-7 cm long forming dense cushions to 30 cm in diameter; leaves rudimentary, caducous; inflorescence with greenish-yellow cyathia.

South Africa (Cape Province, Natal, Transvaal)

CITES App. II

**Euphorbia clandestina** Jacq.

EUPHORBIAACEAE

Stems erect, to 60 cm high; prominent tubercles; leaves at tips of stems, 2-4 cm long, 0.2-0.4 cm wide; inflorescence with green cyathia.

South Africa (Cape Province)

CITES App. II

**Euphorbia clavaroides** Boiss. var. *truncata* (N.E.Br.)

A.C.White, R.A.Dyer & B.Sloane

EUPHORBIAACEAE

Variety with truncate, shorter branches.

South Africa (Transvaal)

CITES App. II

**Euphorbia clandestina** Jacq.

EUPHORBIAACEAE

Plant photographed in habitat.

CITES App. II

**Euphorbia clivicola** R.A.Dyer

EUPHORBIAACEAE

Main stem and root merging and forming an underground caudex to 15 cm long and 3 cm wide; branches above ground to 6 cm long, yellowish-green; spines in pairs, grey; leaves rudimentary, deciduous.

South Africa (Transvaal)

CITES App. II

**Euphorbia coerulescens** Haw.

EUPHORBIAEAE

Shrub to 1.5 m high; branches bluish-grey, spines in pairs to 1.5 cm long, white to dark brown; inflorescence with yellow cyathia.

South Africa (Cape Province)

CITES App. II

**Euphorbia colliculina**

A.C.White, R.A.Dyer
& B.Sloane

EUPHORBIAEAE

Caudex short, buried in the soil with branches forming rosettes to 25 cm in diameter; root tuberous; branches 5-15 cm long, tuberculate, spineless, remains of peduncles persistent, leaves rudimentary, caducous; inflorescence in clusters at the tip of branches. The photograph shows a cultivated young specimen.

South Africa (Cape Province)

CITES App. II

**Euphorbia confinalis**

R.A.Dyer

EUPHORBIAEAE

Arborescent plant to 5 m high and over; main trunk with crown of branches curved, ascending and falling with age; spines in pairs, to 1 cm long, longer in young specimens; inflorescences above the spine pairs. The specimen illustrated is a young one, lacking the crown of apical branches.

South Africa (Transvaal)

CITES App. II

**Euphorbia cooperi**

N.E.Br.

EUPHORBIAEAE

Tree over 5 m high, very much branched above; branches curved, ascending, multi-angled, green with darker transverse bands; spines in pairs, grey with black tips; inflorescence with yellow cyathia.

South Africa (Natal, Transvaal), Zimbabwe

CITES App. II

**Euphorbia cooperi**

N.E.Br.

EUPHORBIAEAE

Plant photographed in habitat.

CITES App. II

**Euphorbia crassipes** Marloth

EUPHORBIAEAE

Thick caudex and main root, to 15 cm long, fused together; branches tuberculate, erect, to 6 cm long, arranged in rosette to 30 cm in diameter; inflorescence at tips of branches.

South Africa (Cape Province)

CITES App. II

**Euphorbia crassipes** MarlothEUPHORBIAEAE
Flowering specimen.

CITES App. II

**Euphorbia crassipes** MarlothEUPHORBIAEAE
Ripening capsules.

CITES App. II

**Euphorbia croizatii** LeandriEUPHORBIAEAE
Shrub to 70 cm high; branches spreading, spiny; leaves to 10 cm long, hairy; spines to 1 cm long, usually 3 together arranged in longitudinal rows; inflorescence at branch apices with yellow cyathia.

Madagascar

CITES App. II

**Euphorbia cylindrifolia** Marr.-Lap. & RauhEUPHORBIAEAE
Branches whitish, subterranean; stems 10-15 cm long; covered with leaf scars; leaves cylindrical, 2-3 cm long, brownish-pink; inflorescence with brownish-pink cyathia.

Madagascar

CITES App. I

**Euphorbia davyi** N.E.Br.EUPHORBIAEAE
Caudex semiglobose, buried in the soil, to 8 cm in diameter; branches 3-15 cm long, light green to brownish, tuberculate; leaves at the tips of branches, to 2.5 cm long, caducous; inflorescence borne among leaves at the apex of branches.

South Africa (Transvaal)

CITES App. II

**Euphorbia decaryi** A.Guill. var. *spirosticha* Rauh & BuchlohEUPHORBIAEAE
Long stolons, subterranean, pale with reduced leaves; aerial stems erect to curved, with reddish-brown bark, covered scars of deciduous leaves; leaves at end of stems, 3-4 cm long, silvery-green, margins undulate; inflorescence on short peduncles, yellow cyathia. The illustrated variety differs from the typical species in having leaves arranged in spiral rows.

Madagascar

CITES App. I

**Euphorbia decidua** P.R.O.Bally & L.C.Leach

EUPHORBACEAE

Subterranean stem, thick; leaves to 1.2 cm long in the juvenile stage. At maturity the plant produces caducous branches to 12 cm long, 6 mm thick with small caducous leaves; inflorescences with yellow cyathia. The photograph shows a plant with juvenile leaves and a young stem.
Angola, Malawi, Zambia, Zimbabwe

CITES App. II

**Euphorbia decidua** P.R.O.Bally & L.C.Leach

EUPHORBACEAE

Seedling showing the characteristic leaves of juvenile stage.

CITES App. II

**Euphorbia decussata**

E.Mey.

EUPHORBACEAE

Shrub to 1 m high, much branched from the base; branches ascending or prostrate; leaves rudimentary, caducous. Plant photographed in habitat.
South Africa (Cape Province)

CITES App. II

**Euphorbia dichroa** S.Carter

EUPHORBACEAE

Rootstock fleshy; branching from base; branches 15 cm long, yellow-green, darker to purplish-green longitudinal stripes; spines to 1 cm long, brown; inflorescence with yellow cyathia.

Uganda

CITES App. II

**Euphorbia dichroa** S.Carter

EUPHORBACEAE

Flowering stem.

CITES App. II

**Euphorbia didiereoides** Denis

EUPHORBACEAE

Stems thorny, to 2 m high; leaves at apex of stems, 5-10 cm long, green, often red-margined, arranged in rosettes; inflorescence with yellowish-green or orange cyathia.

Madagascar

CITES App. II

1075



Euphorbia duranii Ursh & Leandri var. *ankaratrae*
Ursch & Leandri

EUPHORBACEAE

Shrub to 40 cm high; branches 6-8 angled; thorns 1-2 cm long; leaves ovate, to 5 cm long; inflorescence with greenish-yellow to pink cyathia. The variety illustrated is smaller, to 20 cm high, leaves to 3.5 cm long. Photograph by Alberto Marvelli. Madagascar

CITES App. II

1080



Euphorbia duranii Ursh & Leandri var. *ankaratrae*
Ursch & Leandri

EUPHORBACEAE

Close-up of flowers. Photograph by Alberto Marvelli.

CITES App. II

1085



Euphorbia duseimata R.A.Dyer

EUPHORBACEAE

Tuberous caudex 2-3 cm thick; 1-2 subterranean stems to 8 cm long, each with 6-10 branchlets above the ground level, tuberculate; leaves about 1 cm long, deciduous.

South Africa (Cape Province)

CITES App. II

1090



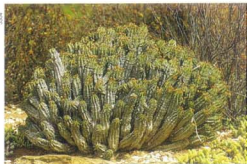
Euphorbia ecklonii (Klotzsch & Garcke) Baill.

EUPHORBACEAE

Tuberous root 3-4 cm long, fused to the main stem; leaves 2-5 cm long, 2.5 cm wide, elliptic, deciduous; inflorescence to 3 cm long, branched. South Africa (Cape Province)

CITES App. II

1095



Euphorbia enopla Boiss.

EUPHORBACEAE

Shrub up to 1 m high, branching from the base and forming large clumps over 1 m in diameter; branches blue or grey-green; persistent prodrucles 2-6 cm long, red; inflorescence with dark red cyathia.

South Africa (Cape Province)

CITES App. II

1100



Euphorbia enopla Boiss.

EUPHORBACEAE

Cristate specimen.

CITES App. II

**Euphorbia esculenta** Marloth

EUPHORBIAEAE

Tuberous root continuing into the main stem and forming an obconical caudex to 20 cm in diameter; branches arranged in rosette, numerous, tuberculate, 5-20 cm long; inflorescence clustered at the ends of branches. Plant photographed in habitat.

South Africa (Cape Province)

CITES App. II

**Euphorbia flanaganii** N.E.Br.

EUPHORBIAEAE

Conical caudex to 5 cm long; branches in crown of 3-8 rows, tuberculate, erect, older ones spreading; leaves to 1 cm long, deciduous; inflorescence produced at the apex of caudex, yellow cyathia.

South Africa (Cape Province)

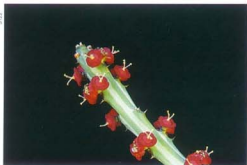
CITES App. II

**Euphorbia flanaganii** N.E.Br.

EUPHORBIAEAE

Cristate specimen.

CITES App. II

**Euphorbia fluminis** S.Carter

EUPHORBIAEAE

Stem green-variegated, 4-angled, to 2 m high, spines solitary, 1.5 cm long; leaves rudimentary, caducous; inflorescence with reddish cyathia.

Photograph by Alberto Marvelli.

Kenya

CITES App. II

**Euphorbia francoisii** Leandri

EUPHORBIAEAE

Stoloniferous plant; leaves 5-7 cm long arranged in rosettes, green-variegated with red mid-rib, margins undulate; inflorescence on peduncle 1 cm long with yellowish-green cyathia.

Madagascar

CITES App. I

**Euphorbia fusca** N.E.Br.

EUPHORBIAEAE

Caudex to 30 cm high and 20 cm in diameter with tuberculate head covered with ascending branches; branches tuberculate, 2-15 cm long, green with whitish leaf scars; leaves rudimentary, caducous; inflorescence clustered at tips of branches, yellow cyathia.

Namibia, South Africa (Cape Province)

CITES App. II

2011

**Euphorbia geroldii** Rauh

EUPHORBIAACEAE

Shrub to 2 m tall, much branched, spineless; stem green to purplish-green; leaves 3-8 cm long, dark green above, paler below, with red margins; inflorescence with red to purplish cyathia.

Madagascar

CITES App. II

2011

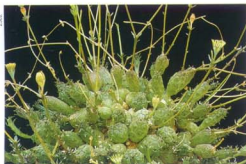
**Euphorbia geroldii** Rauh

EUPHORBIAACEAE

Flowers.

CITES App. II

2012

**Euphorbia globosa** (Haw.) J.Sims.

EUPHORBIAACEAE

Tuberous root; branches numerous, globose, 13 cm long, dark green to reddish, later grey; persistent leaf peduncles to 10 cm long; inflorescence with yellow cyathia.

Euphorbia glomerata Martl.

South Africa (Cape Province)

CITES App. II

2012

**Euphorbia globosa** (Haw.) J.Sims.

EUPHORBIAACEAE

Flowers.

CITES App. II

2017

**Euphorbia gottlebei** Rauh

EUPHORBIAACEAE

Shrub to 1.5 m high; main stem to 2 cm thick; leaves of two types; light green, 4-6 cm long and 2 mm wide, and more numerous shorter ones, recurved; spines to 1.5 cm long; inflorescence on long peduncles, cyathia red.

Madagascar

CITES App. II

2018

**Euphorbia gottlebei** Rauh

EUPHORBIAACEAE

Inflorescence.

CITES App. II

**Euphorbia grandialata** R.A.Dyer

EUPHORBACEAE

Shrub to 2 m high; branches usually 4-angled, constricted into segments, green, marked with yellowish-green bands; margins horny; spines in pair; flowers yellow.

South Africa (Transvaal)

CITES App. II

**Euphorbia grandicornis** Goebel

EUPHORBACEAE

Shrub up to 2 m high with main trunk and numerous green, later grey-green, branching 3-angled stems, constricted, angles wavy with horny edges; light brown or grey; 2-5 cm long spines in pairs; fruits yellow and coral-red. The photograph shows apex with fruits.

Euphorbia brevicarlicata Pax

South Africa

CITES App. II

**Euphorbia grandiidensis** Haw.

EUPHORBACEAE

Main trunk 6-10 m high, branching freely to form several stem-like branches ending in slender terminal branchlets; leaves rudimentary, caducous; inflorescence on short peduncles at ends of branches.

South Africa (Transvaal)

CITES App. II

**Euphorbia griseola**Pax ssp. *mashonica*
L.C.Leach

EUPHORBACEAE

Shrub with shortened main trunk branching from base, forming clumps to 80 cm high; branches dark green with yellow-green marks, 4-6-angled, tuberculate, with spines in pairs; inflorescence above spine pairs. The illustrated subspecies has branches multi-angled (9-12-angled) and can reach 3.5 m in height. Plant photographed in habitat.

Zimbabwe

CITES App. II

**Euphorbia groenewaldii** R.A.Dyer

EUPHORBACEAE

Root tuberous, to 20 cm tall, 8-10 cm thick, continuing into main stem from which green to purple small spirally twisted branches arise; inflorescences with yellow cyathophylls.

South Africa (Transvaal)

CITES App. II

**Euphorbia gymnocalioides** M.G.Gilbert & S.Carter

EUPHORBACEAE

Stem short, cylindrical, tuberculate, to 10 cm high and 8 cm in diameter; leaves rudimentary, caducous; inflorescence borne on previous year's growth, cyathia white outside, reddish-brown inside. Photograph by Gaetano Falisano.

Ethiopia

CITES App. II



Euphorbia hadramautica Baker

EUPHORBIA
EUPHORBIA
Stem erect or prostrate,
3-12 cm long, 1-3 cm thick,
covered with leaf scars;
leaves 3-9 cm long, green,
glabrous. Young plant,
Arabian peninsula
CITES App. II



Euphorbia handiensis Burch.

EUPHORBIA
Cactus-like plant, freely branched, 80-100 cm high; branches 6-8 cm thick,
8-12-angled, white spine 2-3 cm long. The photograph shows a clump of
young plants.
Canary Islands (Fuerteventura)

CITES App. II



Euphorbia hedyotoides N.E.Br.

EUPHORBIA
EUPHORBIA
Tuberous root up to 20 cm
long and 10 cm thick;
aerial spineless stems up to
1 m high, green, later covered
with a red-brown bark and
branching in their
upper parts; leaves 3-10 cm
long, deciduous, arranged
in rosettes at the stem
apex; flowers inconspicuous. The photograph
shows a young specimen.
Euphorbia decurians Croizat
Madagascar
CITES App. II



Euphorbia hofstaetteri Rauh

EUPHORBIA
EUPHORBIA
Spiny shrub to 1 m high; root tuberous; branches erect to curved, grey-
brown, waxy; leaves 3-4 cm long and 1.5 cm wide; margins undulate, red,
hairy; inflorescence on short peduncles, yellow-green striped with red-
brown.
Madagascar

CITES App. II



Euphorbia hofstaetteri Rauh

EUPHORBIA
Close-up of flowers.

CITES App. II



Euphorbia holmsiae Lavranos

EUPHORBIA
EUPHORBIA
Fleshy root up to 20 cm
long and 5 cm in diameter
with spreading spiny branches
up to 30 cm long, pur-
plish to grey-green and
streaked; caducous leaves;
inflorescence with pinkish-
yellow cyathia.
Somalia
CITES App. II

**Euphorbia hopetowensis** Nel

EUPHORBIALES

Caules 5-8 cm thick; branches erect, 2-4 cm long; peduncles persistent, 1 cm long, at ends of branches; inflorescence with green to reddish-brown cyathia.

South Africa (Cape Province)

CITES App. II

**Euphorbia horombensis** Ursch. & Leandri

EUPHORBIALES

Shrub to 1 m tall; stem with thorns 1-2 cm long, in vertical rows; leaves green with red margins, 5-8 cm long, crowded at ends of stems; inflorescence at branch apices with pink cyathia.

Madagascar

CITES App. II

**Euphorbia horrida** Boiss.

EUPHORBIALES

Stems to 15 cm thick, 10-20 prominent angles, very spiny; leaves rudimentary; caducuous; inflorescence on peduncles 1 cm long. This is a very variable species, growing in clumps to 1 m high. Several varieties have been described.

South Africa (Cape Province)

CITES App. II

**Euphorbia horrida** Boiss.

EUPHORBIALES

Inflorescence.

CITES App. II

**Euphorbia horrida** Boiss.

EUPHORBIALES

Dwarf form with whitish stem and short spines. Known only in cultivation. CITES App. II

**Euphorbia horrida** Boiss.

EUPHORBIALES

Atypical specimen with dichotomous growth. Photograph by Gaetano Palisano. CITES App. II

**Euphorbia horrida** Boiss. var. ES 2971

EUPHORBACEAE

A new variety collected at Seweweekspoort (Cape Province). This new form has purplish-pruinose stem and small green involucre glands. South Africa (Cape Province)

CITES App. II

**Euphorbia horrida** Boiss. var. noorsveldensis A.C.White, R.A.Dyer & B.Sloane

EUPHORBACEAE

Stems dull green or bluish-green, narrow; purple involucre glands. South Africa (Cape Province)

CITES App. II

**Euphorbia hottentota** Nel

EUPHORBACEAE

Shrub to 2 m high; main stem not projecting above soil, branching; branches erect, glaucous-green, with spines in pairs to 8 mm long; inflorescence from apices of branches. Photograph by Charles H. Everson. Namibia, South Africa (Cape Province)

CITES App. II

**Euphorbia jansewillensis** Nel

EUPHORBACEAE

Stems glaucous-green, erect, 5-angled, to 15 cm high, branched and suckering from the base; leaves rudimentary, caducous; inflorescence on short peduncles at stem ends. South Africa (Cape Province)

CITES App. II

**Euphorbia jansewillensis** Nel

EUPHORBACEAE

Inflorescence with ripening capsule.

CITES App. II

**Euphorbia juttae** Dinter

EUPHORBACEAE

Shrub 10-15 cm high, branching from base; branches spineless, bluish-green; leaves 2-3 cm long; inflorescence at apex of new branches. Photograph by Charles H. Everson. Namibia

CITES App. II

**Euphorbia keithii**

R.A.Dyer

EUPHORBIAEAE

Shrub 2-4 m tall; branches dark green, 1-2 m long, 5-angled; leaves rudimentary, caducous; spine pairs 1 cm long; inflorescence with yellow flowers.

Swaziland

CITES App. II

**Euphorbia lactea** Haw.

EUPHORBIAEAE

Shrub to 2 m tall; branches 3-4-angled, dark green with paler band; leaves rudimentary, caducous; inflorescence from new growth, with yellow cyathia.

India

CITES App. II

**Euphorbia lactea** Haw.

EUPHORBIAEAE

A crinate specimen.

CITES App. II

**Euphorbia ledienii**

A. Berger

EUPHORBIAEAE

Shrub to 2 m high; branches 5-angled; spines in pairs to 2 cm long; leaves rudimentary, caducous; inflorescence at branch apices, with yellow cyathia.

South Africa (Cape Province)

CITES App. II

**Euphorbia louwii** L.C. Leach

EUPHORBIAEAE

Shrub to 50 cm high; branches bluish, 5-7-angled, spiny; spines purplish; inflorescence yellow.

South Africa (Transvaal)

CITES App. II

**Euphorbia maleolens** E. Phillips

EUPHORBIAEAE

Short caudex to 10 cm thick continuing into the thick root; branches tuberculate, to 20 cm long; leaves at apices of branches; inflorescence on peduncles 1 cm long among leaves in the upper third of branches.

South Africa (Transvaal)

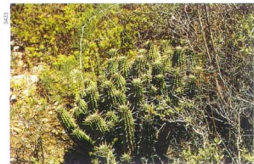
CITES App. II

**Euphorbia maleolens** E.Phillips

EUPHORBACEAE

Specimen with several erect branches.

CITES App. II

**Euphorbia mammillaris** L.

EUPHORBACEAE

Stems to 20 cm high and 6 cm in diameter forming dense clumps to 1 m in diameter; branches erect, with hexagonal tubercles; spines solitary, 1 cm long, grey; inflorescence in clusters at apices of branches. Plant photographed in habitat.

South Africa (Cape Province)

CITES App. II

**Euphorbia mammillaris** L.

EUPHORBACEAE

A large clump photographed in habitat.

CITES App. II

**Euphorbia mammillaris** L.

EUPHORBACEAE

A crinate specimen photographed in habitat.

CITES App. II

**Euphorbia mauritanica** L.

EUPHORBACEAE

Shrub to 1 m high; branches spineless, erect, cylindrical; leaves 1-1.5 cm long, caducous; inflorescence with yellow flowers. Plant photographed in habitat.

Namibia, South Africa (Cape Province)

CITES App. II

**Euphorbia memoralis** R.A.Dyer

EUPHORBACEAE

Shrub to 2 m high; stems cylindrical or 5-7-angled; margins horned, armed with spines in pairs. Small specimen photographed in habitat.

CITES App. II



Euphorbia memorialis
R.A.Dyer
EUPHORBACEAE
Plant photographed in
habitat.
CITES App. II



Euphorbia milii
Des Moul.
EUPHORBACEAE
Shrub to 1.5 m high in cul-
tivation; branches thorny
with leaves at the ends,
green, often with red mar-
gins, to 15 cm long; inflo-
rescence on long peduncles
with red bracts. Several
varieties have been descri-
bed.
Euphorbia beyeri Hook.
Madagascar
CITES App. II



Euphorbia milii Des Moul.
EUPHORBACEAE
Inflorescence of a cultivar with curious cristate flowers.

CITES App. II



Euphorbia milii
Des Moul.
EUPHORBACEAE
Cultivar with dwarf shrub
habit and pale pink cyano-
phylls.
CITES App. II



Euphorbia milii Des Moul.
EUPHORBACEAE
Flowers.

CITES App. II



Euphorbia milii Des Moul.
EUPHORBACEAE
Cultivar «Short and Sweet», compact and profusely flowering.

CITES App. II



Euphorbia milii Des Moul. var. *tenuispina* Rauh & Razaf.

EUPHORBACEAE

Variety with tuberous base to 3.5 cm in diameter, several stems to 20 cm tall, thin spines, cyathophylls pale carmine-red.

Madagascar

CITES App. II



Euphorbia milii Des Moul. var. *vulcani* Leandri

EUPHORBACEAE

Variety with branches 1 cm thick, spines arranged in horizontal series, leaves to 20 cm long, 4-5 cm wide, cyathophylls bright red.

Euphorbia splendens var. *vulcani* Leandri

Madagascar

CITES App. II



Euphorbia millettii Ursch & Leandri

EUPHORBACEAE

Shrub to 20 cm high, branched from base; leaves green-red, to 4 cm long at growing apices; inflorescence with pendent cyathia, red.

Madagascar

CITES App. II



Euphorbia monteiroi Hook.f.

EUPHORBACEAE

Shrub to 1 m tall; branches cylindrical, with tubercles, arranged in spirals; leaves at apex of branches, to 15 cm long and 3 cm wide; inflorescence on peduncles 30 cm long; flowers dark brown to red-brown.

Angola, Botswana,

Namibia

CITES App. II

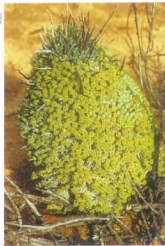


Euphorbia monteiroi Hook.f.

EUPHORBACEAE

Another well grown specimen.

CITES App. II



Euphorbia multiceps A. Berger

EUPHORBACEAE

Shrub to 30 cm high; many tuberculate branches spreading horizontally; leaves 1.2 cm long, shedding soon. Photograph by Charles H. Everson.

South Africa (Cape Province)

CITES App. II



Euphorbia multiramosa Nel
EUPHORBIAEAE

Caudex 20 cm long and 15 cm in diameter; branches tuberculate, 4-11 cm long, simple or branched, with persistent peduncles; inflorescence with yellowish-green cyathia.
Namibia, South Africa (Cape Province)
CITES App. II



Euphorbia namibiensis Marloth

EUPHORBIAEAE

Young specimen.

CITES App. II



Euphorbia myrsinites L.

EUPHORBIAEAE

Decumbent to erect stems up to 30 cm long; leaves up to 4 cm long, glaucous-green, fleshy macrorate tip, arranged in spirals; inflorescence yellow.
Plant photographed in habitat.
Southern Europe

CITES App. II



Euphorbia neobosseri Rauh

EUPHORBIAEAE

Small shrub to 30 cm high, much branched; tuberous root; branches spreading, green and hairy when young, silver gray with thick bark when ageing; leaves to 3.5 cm long, deciduous; inflorescence near stem apices, cyathia yellow-green.

Euphorbia milti var. *bosseri* Rauh
Madagascar

CITES App. II



Euphorbia namibiensis Marloth

EUPHORBIAEAE

Main stem ovoid, 7-20 cm high and 7-15 cm in diameter; branches to 9 cm long, erect or spreading, persistent peduncles; leaves on young branches, to 3.5 cm long, caducous; inflorescence in cluster at apex of branches.

Photograph by Charles H. Everson.

Namibia

CITES App. II



Euphorbia nesemannii R.A. Dyer

EUPHORBIAEAE

Stem and root fused to form a subterranean caudex; branches in clusters near the apex of the stem, to 40 cm long, tuberculate; persistent peduncles; inflorescence at apex of branches.

South Africa (Cape Province)
CITES App. II



**Euphorbia
nesemannii** R.A.Dyer
EUPHORBACEAE
Apex.
CITES App. II



Euphorbia obesa Hook.f.

EUPHORBACEAE
Spineless, dwarf, spherical, unbranched plant, grey-green with transverse red-brown or purplish bands; inflorescence on short peduncles at stem apices. This specimen has atypical growth, producing several offsets at the flowering eyes.
South Africa (Cape Province)

CITES App. II



Euphorbia obesa Hook.f.

EUPHORBACEAE
Another atypical specimen with dichotomous growth.

CITES App. II



Euphorbia obtusifolia Poir.

EUPHORBACEAE
Shrub up to 2 m tall; stems light brown; leaves 5-8 cm long, light green, arranged in rosettes at the branch apices; inflorescence with yellow-green cyathia, capsule light brown or red. Plant photographed in habitat.
Euphorbia regis-jubae Webb & Berthel.

Canary Islands (Gran Canaria, Lanzarote, Fuerteventura) CITES App. II



Euphorbia obtusifolia Poir.

EUPHORBACEAE
Stem with caterpillar of *Hyles tithymali*, a natural enemy of the species.
Plant photographed in habitat.

CITES App. II



Euphorbia obtusifolia Poir.

EUPHORBACEAE
Inflorescence. Plant photographed in habitat.

CITES App. II

**Euphorbia onoclada**

Drake

EUPHORBIAEAE

Shrub to 50 cm high; branches grey-green, spineless, segmented, covered with leaf scars; leaves rudimentary, deciduous; inflorescence with yellowish cyathia.

Madagascar

CITES App. II

**Euphorbia pachypodioides**

Boiteau

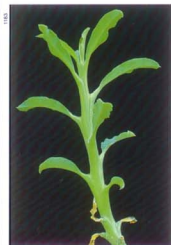
EUPHORBIAEAE

Stems 30-50 cm high, covered with old leaf scars arranged in spiral; leaves bluish-green, 10-15 cm long, at the end of the stems; inflorescence with red purple cyathia.

Euphorbia antalanana Leandri

Madagascar

CITES App. II

**Euphorbia****pedemontana**

L.C. Leach

EUPHORBIAEAE

Shrub spineless; branches roundish, green; leaves 2-4 cm long, green.

South Africa (Cape Province)

CITES App. II

**Euphorbia peltigera**

E.Mey.

EUPHORBIAEAE

Shrub to 40 cm high with tuberous root; short trunk branching from base and above; branches green, velvety when young.

South Africa (Cape Province)

CITES App. II

**Euphorbia peltigera**

E.Mey.

EUPHORBIAEAE

Flowering stem.

CITES App. II

**Euphorbia perangusta**

R.A. Dyer

EUPHORBIAEAE

Shrub to 1 m high; main stem mostly underground; branches constricted into segments, 5- to 7-angled, green with lighter bands, margins horny; spines in pairs, to 1.5 cm long; inflorescence at the apices of branches.

South Africa (Transvaal)

CITES App. II

**Euphorbia persistens** R.A.Dyer

EUPHORBIAEAE

Stem subterranean; branches 3-to 5-angled, 15-20 cm long, glaucous-green with darker stripes; spines brown; inflorescence on short peduncles.

South Africa

CITES App. II

**Euphorbia petricola** P.R.O.Bally & S.Carter

EUPHORBIAEAE

Sub-cylindrical stem to 75 cm long, green; branches toothed; spines grey, black when young, to 1.5 cm long; inflorescence with yellow cyathia.

Kenya

CITES App. II

**Euphorbia persistentifolia**
L.C.Leach

EUPHORBIAEAE

Shrub to 3 m high; branches erect, 4-5-angled, segmented; margins horny, white; spines in pairs to 7 mm long; leaves persistent; inflorescence on short peduncles. Plant photographed in habitat.

Zimbabwe

CITES App. II

**Euphorbia pillansii** N.E.Br.

EUPHORBIAEAE

Dwarf species to 30 cm tall, much branched; branches 7-9-angled, 3-5 cm thick; spines robust, stellate.

South Africa (Cape Province)

CITES App. II

**Euphorbia persistentifolia**
L.C.Leach

EUPHORBIAEAE

A very tall specimen photographed in habitat.

CITES App. II

**Euphorbia piscidermis** M.G.Gilbert

EUPHORBIAEAE

Globose to cylindrical stems, grey to white; tubercles pine-cone shaped, arranged in spirals, covered with scale-like growths; inflorescence on short peduncle, cyathia green outside, yellow inside.

Ethiopia, Somalia

CITES App. II

**Euphorbia piscidermis** M.G.Gilbert

EUPHORBIAEAE

Grafted flowering specimen. Photograph by Gaetano Palisano.

CITES App. II

**Euphorbia piscidermis** M.G.Gilbert

EUPHORBIAEAE

Crestate form. Photograph by Gaetano Palisano.

CITES App. II

**Euphorbia polyacantha** Boiss.

EUPHORBIAEAE

Shrub 1-1.5 m high; branches 4-5-angled, 4 cm in diameter, spines 6 mm long; leaves grey, small, caducous; inflorescence at stem apices.

Ethiopia

CITES App. II

**Euphorbia polygona**

Haw.

EUPHORBIAEAE

Shrub offsetting from base and forming clumps with branches of unequal size; branches to 1.5 m high, 7-10 cm thick, spineless or spiny, 7-20-angled; margins wavy, with persistent peduncles to 1 cm long; leaves rudimentary, caducous; inflorescence from apex of older branches with purple to greyish-purple cyathia.

South Africa (Cape Province)

CITES App. II

**Euphorbia polygona** Haw.

EUPHORBIAEAE

Fruits.

CITES App. II

**Euphorbia primulifolia** Baker

EUPHORBIAEAE

Subterranean caudex 15 cm long, 7 cm thick, covered with a corky layer; one or more stems with 4-12 leaves arranged in rosettes; inflorescences with white to pink cyathia.

Madagascar

CITES App. II



Euphorbia pseudocactus A.Berger

EUPHORBIAEAE

Shrub to 1 m high; branches 3-5-angled constricted into segments, green with grey-green or yellow-green V-shaped markings; flowers yellow. South Africa (Natal)

CITES App. II



Euphorbia ramiglans
N.E.Br.

EUPHORBIAEAE

Caudex to 20 cm long and 15 cm in diameter; branches spineless, 2-4 cm long, tuberculate; leaves to 1 cm long at stem apices, deciduous; inflorescence on short peduncles at stem apices. Photograph by Charles H. Everson. South Africa (Cape Province)

CITES App. II



Euphorbia ramiglans N.E.Br.

EUPHORBIAEAE

Cristate specimen. Photograph by Charles H. Everson.

CITES App. II



Euphorbia rivae Pax

EUPHORBIAEAE

Tuberous rootstock 12 cm long and 4 cm thick from which woody underground stems arise; branches prostrate to 15 cm long; leaves to 1.7 cm long, green with lower surface often tinged red; inflorescence on short peduncles, cyathia red.

Kenya

CITES App. II



Euphorbia rivae Pax

EUPHORBIAEAE

Inflorescence.

CITES App. II



Euphorbia rovieloniae
Rauh

EUPHORBIAEAE

Shrub much branched, to 1 m tall; branches covered with leaf scars; leaves to 8 cm long, dark green above, pale green below; inflorescence whitish.

Madagascar

CITES App. II

**Euphorbia rossii** Rauh & Buchloh

EUPHORBIAEAE

Shrub to 1 m high; stems thorny, branching from base, to 3 cm thick; leaves narrow, 4-5 cm long; inflorescence yellowish-green to red.

Madagascar

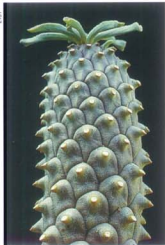
CITES App. II

**Euphorbia rossii** Rauh & Buchloh

EUPHORBIAEAE

Inflorescence.

CITES App. II

**Euphorbia rudis**

N.E.Br.

EUPHORBIAEAE

Caudex mostly buried in the soil; branches to 15 cm long, cylindrical, whitish-green, crowded to form clumps to 20 cm in diameter; leaves at apex of branches, to 1 cm long; inflorescence on peduncles 2 cm long.

Namibia

CITES App. II

**Euphorbia sakarahaensis** Rauh

EUPHORBIAEAE

Shrub to 50 cm high, spiny; root tuberous; branches grey-brown with yellow-brown bark; leaves 2.5 cm long and 2-4 cm wide, dark green above, grey-green below; inflorescence near branch apices, cyathia light green to pinkish.

Madagascar

CITES App. II

**Euphorbia sapini** De Wild.

EUPHORBIAEAE

Stems suckering from base, roundish; leaves light green, sometimes with reddish edges, to 10 cm long, arising from the apex of stems; inflorescence long stalked, with yellow cyathia.

Angola

CITES App. II

**Euphorbia schimperi** J.Presl

EUPHORBIAEAE

Succulent shrub to 2 m high; green to glaucous-green cylindrical branches; leaves 5-10 mm long, triangular; inflorescence with yellow cyathia.

Arabia

CITES App. II



Euphorbia schimperi J.Presl
EUPHORBIAACEAE
Flowering stem.

CITES App. II



Euphorbia schinzii Pax
EUPHORBIAACEAE

Small caudex with numerous branches from base; branches brown to olive green 15 cm long, conspicuously 4-angled; spines in pairs to 7 mm long; inflorescence with vivid yellow-green cyathia, at the end of the stems. Botswana, South Africa, Zimbabwe

CITES App. II



Euphorbia schinzii Pax
EUPHORBIAACEAE
Inflorescence.

CITES App. II

2000



Euphorbia schoenlandii Pax

EUPHORBIAACEAE

Solitary plant; stem rarely branched, to 1.3 m high and 20 cm thick, cylindrical, tuberculate; tubercles spirally arranged, prominent; persistent peduncles to 5 cm long, pale brown or pale grey to whitish; leaves rudimentary, caducous, at apex of stem; inflorescence on peduncles 1–2.5 cm long. Plant photographed in habitat. South Africa (Cape Province)

CITES App. II

2000



Euphorbia schoenlandii Pax

EUPHORBIAACEAE

Cultivated specimen.

CITES App. II

2000



Euphorbia scitula
L.C. Leach

EUPHORBIAACEAE

Woody tuberous root with one to several bright green stems with pale greenish-cream or white stripes, up to 50 cm long, 4-angled, spiny; leaves caducous, rudimentary, cyathia pale green.

Angola

CITES App. II



Euphorbia sekukuniensis R.A.Dyer

EUPHORBIAEAE

Tree to 5 m high; trunk cylindrical with crown of ascending branches to 1 m long; spines in pairs, to 1 cm long; inflorescence on very short peduncles. Young specimen.

South Africa (Transvaal)

CITES App. II



Euphorbia silenifolia (Haw.) Sweet

EUPHORBIAEAE

Flowering specimen.

CITES App. II



Euphorbia serendipita

L.E.Newton

EUPHORBIAEAE

Shrub to 2 m high and 2 m in diameter; stem 4-angled, green with yellow streak in centre of each side; spines in pairs, red becoming grey when ageing; leaves rudimentary, caducous; inflorescence dark red.

Kenya

CITES App. II



Euphorbia sipolisii N.E.Br.

EUPHORBIAEAE

Shrub; branches leafless, 4-angled, segmented, grey-green to reddish, convex at angles, almost leafless; inflorescence with red cyathia.

Brazil

CITES App. II



Euphorbia silenifolia (Haw.) Sweet

EUPHORBIAEAE

Tuberous root 2.5 cm thick, brown, producing deciduous annual leaves; leaves to 10 cm long and 0.2-1.2 cm wide, linear, dark green to bluish-green; inflorescence on peduncles to 13 cm long.

Euphorbia elliptica Thunb.

South Africa (Cape Province)

CITES App. II



Euphorbia sp.

EUPHORBIAEAE

Unrecognized species. Root tuberous; branches thick, round, 20-25 cm long; central spine recurved; flowers yellow. Ethiopia (Awasha)

CITES App. II

**Euphorbia sp.**

EUPHORBIAEAE

Unrecognized species from Madagascar. Shrub with cylindrical spiny stem; leaves narrow, long, green; flowers red.
Madagascar

CITES App. II

**Euphorbia sp. G.Marx 224**

EUPHORBIAEAE

Undescribed species, collected by G. Marx, with thick, tuberculate branches.

South Africa

CITES App. II

**Euphorbia sp.**

EUPHORBIAEAE

Unrecognized plant found in cultivation. Stem 8-10-angled, green-pruinose; spines long, green when young, later brownish. Could be a hybrid of *E. hystagosa* L. Photograph by Gaetano Palisano.
CITES App. II

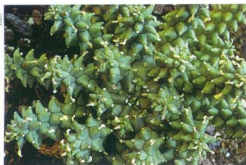
**Euphorbia sp. Lavranos & Newton 1376**

EUPHORBIAEAE

There are two forms of this plant; one has longer branches, grey spines 2-3 cm long; the other (illustrated here) is more compact and densely branched, with spines to 3 cm long and yellowish inflorescence.

Southern Africa

CITES App. II

**Euphorbia sp. Delange 163**

EUPHORBIAEAE

Undescribed species; dwarf plant; branches numerous, spineless, tuberculate.
South Africa

CITES App. II

**Euphorbia sp.**

Leach 14143

EUPHORBIAEAE

A new species discovered by Leach in Tanzania. Stem thick, square, grey-green, freely branched; spines short and thin; flowers greenish-yellow.
Tanzania
CITES App. II

**Euphorbia spinea** N.E.Br.

EUPHORBACEAE

Shrub to 25 cm high; branches sharp-pointed, rebranching and forming hemispherical mass to 1 m in diameter; leaves inconspicuous, caducous; inflorescence small, purple cyathia.

Namibia

CITES App. II

**Euphorbia stellata** Willd.

EUPHORBACEAE

Dwarf species; tap root 15 cm long; stems prostrate to 15 cm long, green or purplish-brown with whitish variegation on upper surface; spines at apex of tubercles; flowers yellowish-green.

South Africa (Cape Province)

CITES App. II

**Euphorbia suzannae** Marloth

EUPHORBACEAE

Stem to 10 cm high; tap root; several ribs each bearing prominent tubercles and deciduous leaves; inflorescence at apex of stem and branches, cyathia yellow. Plant photographed in habitat.

South Africa (Cape Province)

CITES App. II

**Euphorbia suzannae** Marloth

EUPHORBACEAE

Cristate specimen. Photograph by Gaetano Palisano.

CITES App. II

**Euphorbia tetragona** Haw.

EUPHORBACEAE

Tree to 15 m high; main trunk to 20 cm thick, with 1 to 5 stem-like branches ascending from base and crown branches at apex; branches ascending-spreading, deciduous; spines in pairs, to 1.5 cm long, light brown to grey; leaves scale-like; inflorescence on short peduncles, cyathia yellow.

South Africa (Cape Province)

CITES App. II

**Euphorbia tirucalli** L.

EUPHORBACEAE

Shrub to 4 m tall or tree over 12 m tall; branches light green; leaves to 1.2 cm long, persisting only at tips of growing branches; inflorescence clustered at branch apices.

Euphorbia rhyssaloides Welw., *E. similis* Mill.
Tropical East Africa,
southern Africa
CITES App. II

1136

**Euphorbia affinis triaculeata** Forssk.

EUPHORBACEAE

Plant forming small shrubs; branches erect; central spine 2-4 cm long, lateral spines shorter.

Probably Arabia

CITES App. II

1137

**Euphorbia trichadenia** Pax

EUPHORBACEAE

Tuberous caudex to 20 cm long and 15 cm thick; stems herbaceous to 10 cm long, spineless; leaves 5-8 cm long; inflorescence on short peduncles at fork of stems.

Angola, South Africa (Cape Province, Natal, Transvaal)

CITES App. II

1138

**Euphorbia tuberculata** Jacq.

EUPHORBACEAE

Main stem partly buried in the soil continuing into the tap root, producing several branches and forming clumps to 75 cm in diameter; branches dull green to whitish when old, tuberculate, with persistent peduncles; leaves to 4 cm long, at branch apex, deciduous; inflorescence near the apex of stem, on peduncles 2 cm long. The photograph shows a young specimen.

Namibia, South Africa (Cape Province)

CITES App. II

1139

**Euphorbia tuberosa** L.

EUPHORBACEAE

Caudex 2.5 cm thick, buried in the soil; stem nearly absent; leaves to 8 cm long, crisp; inflorescence on peduncles 5 cm long.

South Africa (Cape Province)

CITES App. II

1140

**Euphorbia tubigans** Marloth

EUPHORBACEAE

Caudex with tap root 8-10 cm long and 4-6 cm thick; branches 5-angled, bluish-green, to 15 cm long; leaves rudimentary, caducous; inflorescence on short peduncles at apex of branches, cyathia yellow.

South Africa (Cape Province)

CITES App. II

1141

**Euphorbia valida** N.E.Br.

EUPHORBACEAE

Globose to elongate solitary stems, to 13 cm in diameter and 30 cm high, green with blue-green to reddish markings; peduncles persistent; inflorescence on erect peduncles, cyathia yellow.

South Africa (Cape Province)

CITES App. II



Euphorbia viguieri
M. Denis var.
tsimbazazae
Ursch & Leandri

EUPHORBACEAE
Shrub to 1.5 m high; stems 6-angled with triangular leaf cushions bearing spines, leaves 10 cm long and 3 cm wide at ends of branches; inflorescence on 2-3 cm long peduncles arising from stem apices, bracts red. This variety differs from the species by the long stalked inflorescence.
Madagascar
CITES App. II



Euphorbia viguieri
M. Denis var.
tsimbazazae
Ursch & Leandri

EUPHORBACEAE
Inflorescence:
CITES App. II

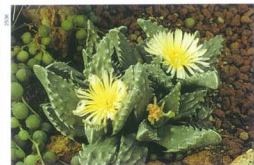


Euphorbia woodii N.E.Br.

EUPHORBACEAE

Caudex obconical, mostly subterranean; branches to 20 cm long, tuberculate, bright green; leaves rudimentary, at the centre of tubercles, deciduous; inflorescence on short peduncles, yellow cyathia.
South Africa (Natal)

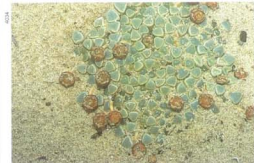
CITES App. II



Faucaria tuberculosa (Rolle) Schwantes

MESEMBRYANTHEMACAE

Leaves dark green, to 2 cm long, with several teeth-like tubercles on upper surface; flowers yellow.
South Africa (Cape Province)



Fenestraria rhopalophylla (Schltr. & Diels) N.E.Br.

MESEMBRYANTHEMACAE

Leaves light green, to 3 cm long, with transparent tips, forming cushions of 10 cm diameter and up; flowers white.
Namibia



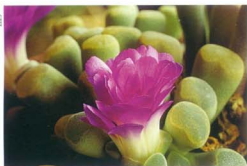
Fockea edulis (Thunb.) K.Schum.

ASCLEPIADACEAE

Caudex to 30 cm diameter; stems climbing or trailing, at least 80 cm long; leaves oblong. It may attain huge dimensions in habitat. Flowering stem.
Southern Africa



Fouquieria columnaris (Kellogg) Kellogg
FOUQUIERIACEAE
Large, elongated caudex with numerous spiny stems to 15 m high; smaller branches arranged in spirals; leaves 2-4 cm long, greenish; flowers yellow.
Itria columnaris Kellogg
Mexico, USA (southwest California)
CITES App. II



Frithia pulchra N.E.Br.
MESEMBRYANTHEMACEAE
Stemless plant; leaves erect, 2 cm long, green to grey-green; leaf apex truncate, with transparent window; flower carmine or white.
South Africa (Transvaal)



Frithia pulchra N.E.Br.
MESEMBRYANTHEMACEAE
Large specimen.



Frithia pulchra N.E.Br.
MESEMBRYANTHEMACEAE
Cultivar «Minima», with smaller leaves.



Furcraea selloa K.Koch. var. *marginata* Trel.
AGAVACEAE
Single stemmed rosette up to 1.5 m high; leaves numerous, sword-shaped green with yellow edges; inflorescence up to 6 m tall, flowers greenish-white.
Furcraea lindleyi Jacobi
Guatemala, Mexico



× **Gasterhaworthia bayfieldii** (Salm-Dyck) G.D.Rowley
LILIACEAE
Rosette; leaves numerous, 10-15 cm long and 3 cm wide at base; triangular apex, horny margins, light green, reddish near the base and covered with prominent points; inflorescence 60-70 cm tall, flowers pale red. Hybrid between unknown species.
Alve bayfieldii Salm-Dyck
Garden origin



Gasteria acinacifolia (Jacq.) Haw.

LILIACEAE

Stemless plant to 75 cm high and 65 cm wide, forming small groups; leaves erect to 60 cm long and 10 cm wide at base, lanceolate, erectly spreading; dark green with white spots; margins cartilaginous; inflorescence to 1 m tall; flowers pink. The photograph shows the flowers. Photograph by Ernst van Jaarsveld. South Africa (Cape Province)



Gasteria batesiana G.D.Rowley

LILIACEAE

Stemless plant to 10 cm high and 30 cm in diameter forming small to large groups; leaves to 18 cm long and 4 cm wide at base, triangular, dark green with dense white spots and white or green tubercles; inflorescence to 45 cm long; flowers light pink. Photograph by Ernst van Jaarsveld. South Africa (Natal, Transvaal)



Gasteria baylissiana Rauh

LILIACEAE

Stemless plant forming small groups to 8 cm in diameter; leaves to 5.5 cm long and 2-3 cm wide at base, green with white cartilaginous tubercles; inflorescence to 35 cm long; flowers reddish-pink. Photograph by Ernst van Jaarsveld. South Africa (Cape Province)



Gasteria bicolor Haw.

LILIACEAE

Plant with short stems to 50 cm tall, offsetting from base to form small groups; leaves distichous or spirally arranged, to 40 cm long and 6 cm wide at base, dark green with dense white spots; margin cartilaginous; inflorescence to 1.5 m tall; flowers light pink or white. Photograph by Ernst van Jaarsveld. *Gasteria maculata* (Thunb.) Haws. South Africa (Cape Province)



Gasteria bicolor Haw. var. *liliputana* (Poelln.) vanJaarsv.

LILIACEAE

Leaves distichous or spirally arranged, to 10 cm long and 1.4 cm wide at base, dark green with dense white spots; margins cartilaginous; inflorescence to 40 cm long; flowers pink. Photograph by Ernst van Jaarsveld. South Africa (Cape Province)



Gasteria brachyphylla (Salm Dyck) vanJaarsv.

LILIACEAE

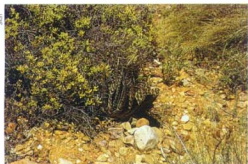
Stemless plant to 25 cm tall and 25 cm in diameter; forming small groups; leaves distichous to 23 cm long and 8 cm wide at base, dark green with dense white spots; margins wavy; inflorescence to 90 cm tall; flowers pink. Photograph by Ernst van Jaarsveld. *Gasteria angustiantha* Poelln.; *G. nigricans* (Haw.) Duval. South Africa (Cape Province)



***Gasteria brachyphylla* (Salm Dyck) vanJaarsv.**

LILIACEAE

Plant photographed in habitat.



***Gasteria brachyphylla* (Salm Dyck) vanJaarsv.**

LILIACEAE

Plant photographed in habitat.



***Gasteria carinata* (Mill.) Duval**

LILIACEAE

Stemless plant offsetting from base and forming small groups to 80 cm in diameter; leaves 5–18 cm long and 1–5 cm wide at base, triangular, green with white spots; inflorescence to 80 cm tall; flowers pink. South Africa (Cape Province)



***Gasteria carinata* (Mill.) Duval var. *retusa* vanJaarsv.**

LILIACEAE

Variety with retuse or truncate leaves, smaller than the type species (to 9 cm long and 3.5 cm wide at base) and shorter inflorescence (to 45 cm tall). Photograph by Ernst van Jaarsveld. South Africa (Cape Province)



***Gasteria carinata* (Mill.) Duval var. *verrucosa* (Mill.) vanJaarsv.**

LILIACEAE

Variety with linear-lanceolate leaves, tuberculate, distichous. This variety is very variable in size and leaf shape. Photograph by Ernst van Jaarsveld. *Gasteria verrucosa* (Mill.) Duval South Africa (Cape Province)



***Gasteria carinata* (Mill.) Duval var. *verrucosa* (Mill.) vanJaarsv.**

LILIACEAE

Another specimen in habitat. Photograph by Ernst van Jaarsveld.



Gasteria disticha (L.) Haw.

LILIACEAE

Stemless plant offsetting from base and forming small groups; leaves distichous to 1.5 cm long and 4.5 cm wide at base, green with dense white spots; margins undulate; inflorescence 20-90 cm tall with up to 180 pink to reddish flowers. Photograph by Ernst van Jaarsveld.
South Africa (Cape Province)



Gasteria excelsa Baker

LILIACEAE

Stemless rosette to 60 cm tall and 75 cm in diameter; leaves to 40 cm long and 18 cm wide at base, triangular, erect, dark green with white spots; margins white, semi-transparent, cartilaginous; inflorescence 55-75 cm tall; flowers light pink or white. Photograph by Ernst van Jaarsveld.
South Africa (Cape Province)



Gasteria glomerata vanJaarsv.

LILIACEAE

Stemless plant, offsetting from the base and forming small clusters to 20 cm in diameter; leaves distichous, 15-30 cm long and 15-20 cm wide at base, glaucous-green, unspotted; inflorescence 12-20 cm long; flowers pinkish-red. Photograph by Ernst van Jaarsveld.
South Africa (Cape Province)



Gasteria nitida (Salm-Dyck) Haw.

LILIACEAE

Stemless plant 6-20 cm tall, proliferating from base to form small groups; leaves distichous when young, then spirally arranged, to 20 cm long and 2.5-8 cm wide at base, dark green with white spots (juvenile leaves unspotted); inflorescence to 1.2 m long; flowers bright red. Photograph by Ernst van Jaarsveld.

Gasteria diviciens Haw.

South Africa (Cape Province)



Gasteria pillansii Kensit

LILIACEAE

Stemless plant offsetting from base and forming groups to 1 m in diameter with 10-150 plants; leaves to 20 cm long and to 5 cm wide at base, green spotted with tubercles; inflorescence to 1.6 m long; flowers pink. Photograph by Ernst van Jaarsveld.

South Africa (Cape Province)



Gasteria pillansii Kensit var. *ernsti-ruschii* (Dinter & Poelln.) vanJaarsv.

LILIACEAE

Smaller variety, with leaves to 7 cm long and inflorescence to 30 cm long. *Gasteria ernsti-ruschii* Dinter & Poelln.
South Africa (Cape Province)



Gasteria pillansii Kentsit var. *ernsti-ruschii* (Dinter & Poelln.) van Jaarsv.

LILIACEAE

Plant photographed in habitat by Ernst van Jaarsveld.



Gasteria pulchra (Aiton) Haw.

LILIACEAE

Stemless plant solitary or forming small groups; leaves 25-35 cm long and 2.5-4 cm wide at base, dark green with dense white spots; margins cartilaginous; inflorescence 30-150 cm tall; flowers reddish-pink. Photograph by Ernst van Jaarsveld.

Gasteria pedunculata Jacobsen
South Africa (Cape Province)



Gasteria pulchra (Aiton) Haw.

LILIACEAE

Flowers. Photograph by Ernst van Jaarsveld.



Gasteria rawlinsonii Oberm.

LILIACEAE

Plant with pendulous stems to 1 m long; leaves distichous or spirally arranged, 3-8 cm long and 1-2.5 cm wide at base, green, unspotted or with faint white spots; margins denticulate; inflorescence 10-50 cm long; flowers reddish-pink. Photograph by Ernst van Jaarsveld.

South Africa (Cape Province)



Gasteria sp.

LILIACEAE

Variegated form of unidentified species of garden origin.



Gasteria vlokii vanjaarsv.

LILIACEAE

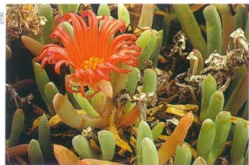
Stemless plant offsetting from base to form small groups; leaves distichous when young, then spirally arranged, 5-9 cm long and 2-3 cm wide at base, green with dense white spots; inflorescence 30-80 cm long; flowers reddish-pink. Photograph by Ernst van Jaarsveld.

South Africa (Cape Province)



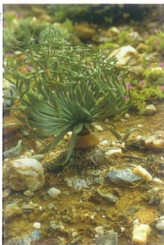
Gibbaea vlokii vanjaarsv.

LILIACEAE
Cultivated specimen.



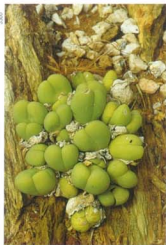
Gibbaeum fissoides (Haw.) Nel

MESEMBRYANTHEMACEAE
Clump-forming plant; leaves of unequal size, to 3 cm long and 0.6-0.8 cm wide, grey to grey-green, sometimes tinged red; flowers red.
Antegibbaeum fissoides (Haw.) Schwantes.
South Africa (Cape Province)



Gethyllis namaquensis
(Shönl.) Oberm.

AMARYLLIDACEAE
Bulbs 10-20 cm in diameter; leaves deciduous, appearing after flowering and fruiting; flowers white.
Klinja namaquensis
Schönlund
Namibia



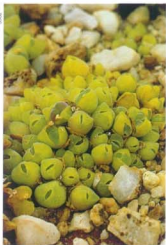
Gibbaeum heatii
(N.E.Br.) L.Bolus

MESEMBRYANTHEMACEAE
Caespitose plant; bodies subglobose, 2-3 cm high and 1-2.5 cm thick; leaves of equal size, green to whitish-green; flowers white to cream-white.
South Africa (Cape Province)



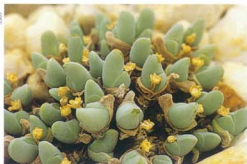
Gibbaeum esterhuyseniae L.Bolus

MESEMBRYANTHEMACEAE
Plant forming groups to 10 cm in diameter; leaves 2-5 cm long, green, glabrous; flowers pink. Plant photographed in habitat.
South Africa (Cape Province)



Gibbaeum pilosulum
(N.E.Br.) N.E.Br.

MESEMBRYANTHEMACEAE
Caespitose plant; leaves united into obovate bodies to 2.5 cm high and 2 cm wide, light green, whitish, pubescent; flower red-violet.
South Africa (Cape Province)

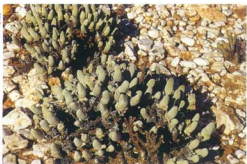


Gibbaeum pubescens (Haw.) N.E.Br.

MESEMBRYANTHEACEAE

Stems short, woody, with remains of dry leaves; leaves of unequal size, from 1 to 3 cm, whitish-grey; flowers violet-red.

South Africa (Cape Province)



Gibbaeum pubescens (Haw.) N.E.Br.

MESEMBRYANTHEACEAE

Plant photographed in habitat.



Gibbaeum velutinum (L.Bolus) Schwantes

MESEMBRYANTHEACEAE

Plant caespitose, branched; leaves united at base, divaricate, of unequal size, from 4 cm to 5-6 cm; flowers pink.

South Africa (Cape Province)



Glottiphyllum cruciatum N.E.Br.

MESEMBRYANTHEACEAE

Plant forming small groups; leaves light green to red when grown in full sun, 8-10 cm long, semi-cylindrical, curved outside; flowers light yellow.

Plant photographed in habitat.
South Africa (Cape Province)



Glottiphyllum cruciatum N.E.Br.

MESEMBRYANTHEACEAE

Plant photographed in habitat.



Glottiphyllum depressum (Haw.) N.E.Br.

MESEMBRYANTHEACEAE

Small clumps; leaves erect, curving towards apex, to 10 cm long, green; flowers yellow. Plant photographed in habitat.

South Africa (Cape Province)



Glottiphyllum latifolium N.E.Br.

MESEMBRYANTHEMACEAE

Leaves of unequal size up to 8 cm long, soft, fleshy, with transparent dots; flowers yellow. Plant photographed in habitat.

South Africa (Cape Province)

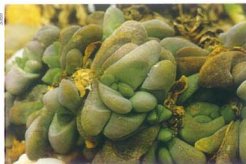


Glottiphyllum longum (Haw.) N.E.Br.

MESEMBRYANTHEMACEAE

Leaves erect, to 10 cm long and 2 cm wide, narrowed towards the apices, dark green; flowers yellow. Plant photographed in habitat.

South Africa (Cape Province)



Glottiphyllum oligocarpum L.Bolus

MESEMBRYANTHEMACEAE

Branches creeping; leaves of unequal size arranged in rows, 4 to 5 cm long, white-olive green with prominent dots, velvety; flowers yellow.

South Africa (Cape Province)



Glottiphyllum regium N.E.Br.

MESEMBRYANTHEMACEAE

Erect shoots, each with 2 pairs; leaves of unequal size, from 2 to 10 cm, light green; flowers yellow. Plant photographed in habitat.

South Africa (Cape Province)



Graptopetalum bellum (Moran & Meyran) D.R.Hunt

CRASSULACEAE

Compact rosettes to 5 cm in diameter, almost flat to the ground; leaves grey-green, 1-2 cm long; flowers over 2.5 cm diameter, magenta-pink. The photograph shows a cristate specimen.

Tactus bellus Moran & Meyran

Mexico



Graptopetalum bellum (Moran & Meyran) D.R.Hunt

CRASSULACEAE

Flowers.



Graptopetalum paraguayense (N.E.Br.) Walthier

CRASSULACEAE
Stem to 30 cm long, decumbent; leaves 3-5 cm long and 1-2 cm wide, grey-green; inflorescence branched; flowers white spotted with red. Variegated form. Mexico



Graptopetalum saxifragoides Kimmach

CRASSULACEAE
Rosettes stemless, small, compact; leaves grey-green; flowers white spotted with brownish tinge towards the tips of petals.



Graptopetalum pentandrum Moran ssp. **superbum** Kimmach

CRASSULACEAE
Stems short, freely branched; leaves blue-grey arranged in rosettes at the apex of branches. Mexico



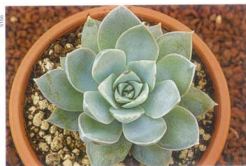
Graptopetalum saxifragoides Kimmach

CRASSULACEAE
Close-up of flowers. Mexico



Graptopetalum rusbyi (Greene) Rose

CRASSULACEAE
Small plant; leaves in rosettes 1.5-2 cm long; flowers coral-red. USA (Arizona)



Graptopetalum suaveolens R.T.Clausen

CRASSULACEAE
Rosettes with bluish-green leaves. Mexico



Graptopetalia cv. «Albert Baynesii»

CRASSULACEAE

Hybrid between *Graptopetalum* × *Echeveria*; leaves arranged in rosettes, bluish tinged with pink.

Garden origin



Graptopetalia cv. «Hahinii»

CRASSULACEAE

Hybrid between *Graptopetalum* × *Echeveria* with short stem and leaves arranged in rosettes.

Garden origin



Graptopetalia opalina ISI 1853

CRASSULACEAE

Intergeneric hybrid (*Graptopetalum* × *Echeveria*); leaves arranged in rosettes, pale blue.

Garden origin

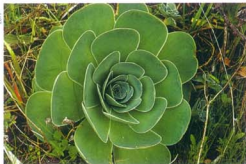


Graptopetalia «Spirit of 76»

CRASSULACEAE

An intergeneric hybrid (*Graptopetalum* × *Echeveria*) with short stem and leaves in rosettes; bluish tinged with violet-pink.

Garden origin



Greenovia aurea (H.Christ) Webb & Berth.

CRASSULACEAE

Low shrub forming clumps of rosettes; leaves blue-green to pale green, pruinose; flowers yellow. During the dry season rosettes close-up to protect the apical meristem. Plant photographed in habitat.

Canary Islands (Tenerife, Gran Canaria, Hierro, Gomera)



Haemanthus albiflos Jacq.

AMARYLLIDACEAE

Leaves elliptic, erect, to 40 cm long and 12 cm wide, sometimes with white spots; flowers white.

South Africa

**Haemanthus coccineus** L.

AMARYLLIDACEAE

Leaves 45 cm long and 15 cm wide, recurved or prostrate, fleshy, with white or maroon bands; flowers coral to scarlet with white markings. Photograph by Charles H. Everson. South Africa (Cape Province)

**Haemanthus humilis** Jacq. ssp. *hirsutus* (Baker) Snijman

AMARYLLIDACEAE

Leaves elliptic or lanceolate, erect, 30 cm long and 15 cm wide, pubescent; flowers white to pink. *Haemanthus nelsonii* Bak. South Africa

**Haworthia angustifolia** Haw.

LILIACEAE

Rosette stemless, 2-6 cm in diameter; leaves ascending, to 10 cm long and 1.5 cm wide, dull green or red when grown in full sun; margins with scattered teeth; inflorescence to 20 cm tall; flowers pinkish-white with brownish-pink veins. South Africa (Cape Province)

**Haworthia arachnoidea** (L.) Duval

LILIACEAE

Rosette stemless, to 4-10 cm in diameter, clustering; leaves 2-7 cm long, incurved, green, semi-translucent; margins with white to pale brown teeth; inflorescence to 30 cm tall; flowers white with green veins. Photograph by Roberto Mangani. South Africa (Cape Province)

**Haworthia arachnoidea** (L.) Duval

LILIACEAE

Specimens densely white-spined (from Ladysmith, Cape Province).

**Haworthia arachnoidea** (L.) Duval

LILIACEAE

Plant photographed in habitat by Charles H. Everson.

BIB



Haworthia aranea (Berger) M.B.Bayer

LILIACEAE

Rosette stemless, to 4-10 cm in diameter, clustering; leaves 5-10 cm long, incurved, green, semi-transparent, especially towards the tips; margins with white bristles; inflorescence to 30 cm tall; flowers white with green veins. This species may be a variant of *H. holisi* Baker or *H. arafanoides* (L.) Dunal.

South Africa (Cape Province)

BIB



Haworthia asperula Haw.

LILIACEAE

Rosette stemless, 2-8 cm in diameter, offsetting from the base; leaves erect to recurved, to 3.5 cm long, with a triangular pellucid area at tips; inflorescence 55 cm tall; flowers whitish with greenish-brown veins. Bayer rejects this species and considers it → a dreadful source of confusion.

South Africa (Cape Province)

BIB



Haworthia bayeri J.D.Venter & S.A.Hammer

LILIACEAE

Rosettes stemless, to 9 cm in diameter; leaves to 4 cm long, 1.7 cm wide at the tip, green at base, reddish-brown toward the end with branched whitish → imbedded → markings; tip translucent; inflorescence to 30 cm tall; flowers white with brown veins.

South Africa (Cape Province)

BIB



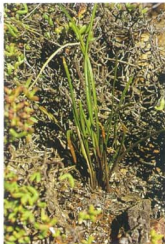
Haworthia blackburniae W.F.Barker

LILIACEAE

Plant short stemmed, to 15 cm tall; leaves 10 cm long, glaucous-green, grooved; inflorescence to 25 cm tall; flowers white with brown veins.

South Africa (Cape Province)

BIB



Haworthia blackburniae
var. **graminifolia**
M.B. Bayer

LILIACEAE

Plant with short stems to 4.5 cm tall; leaves erect to spreading, to 30 cm long, 3 mm wide and 1.5 mm thick, dull green; inflorescence to 60 cm tall; flowers white with green veins. Plant photographed in habitat.

Haworthia graminifolia
G.G.Sm.
South Africa (Cape Province)

BIB



Haworthia bruynsii M.B.Bayer

LILIACEAE

Stemless plant to 6 cm in diameter; leaves erect, to 4 cm long and 1.4 cm wide at tip, yellow-green to reddish when grown in full sun; inflorescence 25 cm tall; flowers white with brown veins.

South Africa (Cape Province)



Haworthia cassytha Baker

LILIACEAE

Although in cultivation under this name, this species is quite uncertain. Baker, when describing the taxon, was not sure of the correct genus and stated: «it may be an *Africa*». Other authors consider this taxon to be a complex of garden hybrids.



Haworthia chloracantha Haw. var. *subglauca* Poelln.

LILIACEAE

Rosettes stemless, 3-5 cm in diameter; leaves to 3 cm long, brownish-green or light green; margins with translucent teeth; inflorescence to 20 cm tall; flowers white with green keels. This variety has nearly glaucous leaves. South Africa (Cape Province)



Haworthia comptoniana G.G.Sm.

LILIACEAE

Rosettes stemless, to 9 cm in diameter; leaves reddish-brown to green, with reticulated lines, to 4.5 cm long and 2 cm wide at base; inflorescence to 25 cm tall; flowers white with greenish-brown keels. The illustrated specimen is cultivated as forma «major».

Haworthia emiluae var. *comptoniana* J.D.Venter & S.A.Hammer
South Africa (Cape Province)



Haworthia cooperi Baker

LILIACEAE

Rosettes stemless, 5-8 cm in diameter; leaves to 4.5 cm long, pale green, translucent; inflorescence to 40 cm tall; flowers pinkish-white with greenish-brown veins. Photograph by Roberto Mangani.
South Africa (Cape Province)



Haworthia cooperi Baker

LILIACEAE

A compact form cultivated as forma «obtus».
South Africa (Cape Province)



Haworthia cuspidata Haw.

LILIACEAE

Rosettes to 8 cm in diameter; leaves pale green with darker spots. This species is probably a hybrid of *H. retusa* (L.) Duval and *H. cymbiformis* (Haw.) Duval, widely cultivated.

Garden origin



Haworthia cymbiformis (Haw.) Duval

LILIACEAE

Stemless rosettes 10 cm in diameter; leaves 3-5 cm long, numerous, pale green, translucent with dark stripes; inflorescence 20 cm tall; flowers white with brownish-green veins. A variable species. The specimen illustrated here is a form with elongated stems.

Haworthia comarua Haw.; *H. lepida* G.G. Sm.; *H. plumifolia* Haw.
South Africa (Cape Province)



Haworthia cymbiformis (Haw.) Duval

LILIACEAE

The flowers.



Haworthia cymbiformis (Haw.) Duval

LILIACEAE

A variegated form.



Haworthia cymbiformis (Haw.) Duval

LILIACEAE

Another variegated form.



Haworthia decipiens Poelln.

LILIACEAE

Rosettes stemless 4-6 cm in diameter; leaves to 4.5 cm long, green to reddish; margins acute with pellucid teeth; inflorescence 35-40 cm tall; flowers greyish-white with greenish-brown veins.

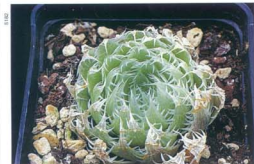
South Africa (Cape Province)



Haworthia decipiens Poelln.

LILIACEAE

A specimen from Gerstkraal area (Cape Province).



Haworthia decipiens Poelln.

LILIACEAE

A smaller form from Prince Albert area (Cape Province).



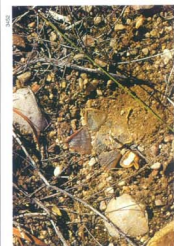
Haworthia emelyae Poelln.

LILIACEAE

Rosette stemless; leaves recurved, brownish-green, tip convex, translucent, with pinkish spots; inflorescence 30 cm tall; flowers white with brown veins.

Haworthia correctae Poelln.

South Africa (Cape Province)



Haworthia emelyae Poelln.

LILIACEAE

Plant photographed in habitat.



Haworthia emelyae Poelln. var. *multifolia* M.B.Bayer

LILIACEAE

Variety with up to 60 leaves, suberect.
South Africa (Cape Province)



Haworthia fasciata (Willd.) Haw. forma *browniana* (Poelln.) M.B.Bayer

LILIACEAE

Rosettes stemless, 7 cm in diameter and to 14 cm tall; leaves 4 cm long, green with white tubercles; inflorescence 40 cm tall; flowers reddish-white with brown veins. Variety with leaves longer and wider than the type, brownish in colour.

South Africa (Cape Province)



Haworthia glauca Baker

LILIACEAE

Stem to 8 cm tall; leaves crowded, 2-3 cm long, the younger pale green, the old brownish to bluish-green; inflorescence to 30 cm tall; flowers greyish-white with brown veins.
South Africa (Cape Province)



Haworthia glauca W.F.Baker var. *herrei* Poelln.

LILIACEAE

A variety with longer stems.
Haworthia ridgwayi Poelln.; *H. herrei* Poelln.
South Africa (Cape Province)



Haworthia limifolia Marloth

LILIACEAE

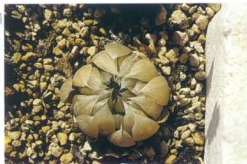
Rosettes stemless to 12 cm in diameter; leaves recurved, spreading, 3-10 cm long and 2-4 cm wide, green with raised shining tubercles; inflorescence to 35 cm tall; flowers white with grey or green veins.
Mozambique, South Africa (Natal, Transvaal), Swaziland



Haworthia kingiana
Poelln.

LILIACEAE

Rosettes stemless to 15 cm in diameter; leaves erect when young, later tapering, bright green with reddish tip; tubercles white; inflorescence to 40 cm tall; flowers white with green veins.
South Africa (Cape Province)



Haworthia lockwoodii Archibald

LILIACEAE

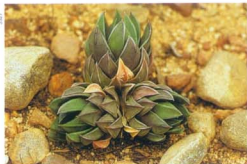
Rosettes stemless, to 10 cm in diameter; leaves erect, recurved, 6 cm long, yellow-green, with a papery-like tip; inflorescence 20 cm tall; flowers white with green and brown veins. Photograph by Roberto Mangani.
South Africa (Cape Province)



Haworthia koelmaniorum Oberm. & Hardy

LILIACEAE

Rosettes stemless, solitary, 7 cm in diameter; leaves to 4 cm long, recurved, dark purplish-brown; numerous rounded tubercles; inflorescence 35 cm tall, flowers white with grey-green veins.
Haworthia nemourtrii C.L.Schott
South Africa (Transvaal)



Haworthia marginata (Lam.) Stearn

LILIACEAE

Rosettes stemless, 15 cm in diameter; leaves whitish-green, smooth, to 8 cm long; inflorescence to 50 cm tall; flowers pinkish-white with green veins.
South Africa (Cape Province)

**Haworthia marginata** (Lam.) Stearn

LILIACEAE

Cultivated specimen. Photograph by Roberto Mangani.

**Haworthia marumiana** Uitewaal

LILIACEAE

Rosettes stemless to 30 cm in diameter, forming small clumps; leaves to 2 cm long, brownish-green, with tubercles and teeth; inflorescence 25 cm tall; flowers white with green veins.

South Africa (Cape Province)

**Haworthia maughanii** Poelln.

LILIACEAE

Stemless plant, to 5 cm in diameter; leaves arranged in spirals, semi-cylindrical, truncate tip with a translucent window, erect, to 2.5 cm long and 1.5 cm wide; inflorescence 20 cm tall; flowers white with brown veins. Bayer, in his recent monograph, considers this species as a variety of *H. truncata* var. *maughanii* (Poelln.) B.Fearn. Plant photographed in habitat. South Africa (Cape Province)**Haworthia minima** (Aiton) Haw.

LILIACEAE

Rosettes stemless to 8 cm in diameter; leaves 7 cm long, triangular, with sharp pointed tip, tuberculate; inflorescence 50 cm tall; flowers white with green veins. South Africa (Cape Province)

**Haworthia mirabilis** (Haw.) Haw.

LILIACEAE

Rosettes stemless 2.5-7 cm in diameter, forming clusters; leaves 3-4 cm long, yellow or yellow-green, armed with minute teeth; inflorescence 45 cm tall; flowers white with greenish-brown veins.

Haworthia willowmorensis Poelln.

South Africa (Cape Province)

**Haworthia mucronata** Haw. var. *helmiae* (Poelln.) M.B.Bayer

LILIACEAE

Rosettes stemless to 7 cm in diameter and forming clusters; leaves 3-4 cm long, erect (incurved when grown in dry conditions), smooth with green longitudinal lines, armed with teeth; inflorescence 40 cm tall; flowers white with brown and green veins.

Haworthia helmiae Poelln.; *H. ancisor* Haw. var. *helmiae* (Poelln.) M.B.Bayer. South Africa (Cape Province)



Haworthia mucronata
Haw. var. *inconfluens*
(Poelln.) M.B. Bayer

LILIACEAE

Rosettes stemless, 5-8 cm in diameter; leaves 2.5 cm long, light green or reddish, margins with teeth; inflorescence 25 cm tall; flowers white with green veins. This variety is more opaque in colour and is usually spineless. Photograph by Roberto Mangani.

Haworthia inconfluens
(Poelln.) M.B. Bayer;
Haworthia subdonalis
Poelln. var. *inconfluens*
(Poelln.) M.B. Bayer
South Africa (Cape Province)



Haworthia mucronata Haw. var. *rycroftiana* M.B. Bayer

LILIACEAE

Rosette stemless to 10 cm in diameter; leaves to 5 cm long, green with darker tips, turning to reddish-brown when in full sun, inflorescence 30 cm tall; flowers white with green veins.

Haworthia rycroftiana M.B. Bayer
South Africa (Cape Province)



Haworthia multilineata (G.G.Sm.) C.L. Scott

LILIACEAE

Rosettes stemless to 8 cm in diameter; leaves recurved, 4-5 cm long, green with white lines and spots; inflorescence 30 cm tall; flowers white with brown and green veins. Bayer considers this species to be a synonym of *H. retusa* (L.) Duval. Photograph by Roberto Mangani.
South Africa (Cape Province)



Haworthia mutica Haw.

LILIACEAE

Rosettes stemless to 6 cm in diameter; leaves brownish to green, 4 cm long, with tips rounded and flattened; inflorescence 15 cm tall; flowers white with green veins.

Haworthia otzani G.G.Sm.
South Africa (Cape Province)



Haworthia nigra (Haw.) Baker

LILIACEAE

Plant short stemmed, to 15 cm tall and 7 cm in diameter; leaves black-green, 1.4 cm long and to 2 cm wide at base, acuminate towards the tips; inflorescence 30 cm tall; flowers white with brown and green veins.

Haworthia schmidiana Poelln.
South Africa (Cape Province)



Haworthia nortieri G.G.Sm.

LILIACEAE

Rosette stemless to 8 cm in diameter; leaves 2-4 cm long, mauvish-brown, translucent in the upper half; inflorescence 35 cm tall; flowers white with greenish-brown veins.

South Africa (Cape Province)



Haworthia picta Poelln.

LILIACEAE

Rosettes stemless to 6 cm in diameter; leaves grey-green, 3.5 cm long, truncate at the tip; tip translucent; inflorescence 25-30 cm long; flowers white with green veins. Bayer includes this species in *H. emlyan* Poelln. South Africa (Cape Province)



Haworthia pumila (L.) Duval

LILIACEAE

Rosettes stemless to 20 cm in diameter; leaves reddish or dark green, 10 cm long, 3 cm wide at base, triangular with a pungent reddish-brown tip, white tubercles; inflorescence 40 cm tall; flowers whitish with brownish-white veins.

Haworthia margaritifera (L.) Mill.; *H. maxima* (Haw.) Duval
South Africa (Cape Province)



Haworthia pygmaea Poelln.

LILIACEAE

Rosettes stemless to 10 cm in diameter; leaves to 5 cm long, brownish, papillate, translucent in the upper half; inflorescence 35 cm tall; flowers white with greenish-brown veins. Photograph by Roberto Mangani. South Africa (Cape Province)



Haworthia reinwardtii (Salm-Dyck) Haw.

LILIACEAE

Rosettes elongate to 15 cm tall and 5 cm in diameter; leaves green, 1-2 cm long, green with whitish tubercles; inflorescence 40 cm tall; flowers pinkish-white with greyish-brown veins. Variable species.

Photograph by Roberto Mangani.
South Africa (Cape Province)



Haworthia reinwardtii (Salm-Dyck) Haw.

LILIACEAE

Stems of another specimen.

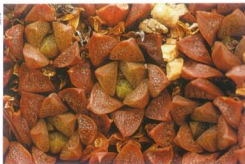


Haworthia reticulata Haw.

LILIACEAE

Rosette stemless to 8 cm in diameter; leaves to 6 cm long, greenish-white, translucent in the upper third, with green longitudinal lines; inflorescence 30 cm tall; flowers pinkish-white with pinkish veins.

Haworthia guttata Uitewaal
South Africa (Cape Province)



Haworthia retusa (L.) Duval

LILIACEAE

Rosette stemless to 14 cm in diameter, forming clumps; leaves to 6 cm long, green, shiny, turning to reddish-brown when in full sun, inflorescence 70 cm tall; flowers white with green veins. Plant photographed in habitat.

Haworthia caespitosa Poelln.; *H. turgida* Haw.

South Africa (Cape Province)



Haworthia retusa (L.) Duv.

LILIACEAE

A clump photographed in habitat.



Haworthia scabra Haw.

LILIACEAE

Rosette stemless to 6 cm in diameter; leaves to 7 cm long, erect, laterally curved, with pungent yellow tip; inflorescence 60 cm tall; flowers pinkish-white with grey-green veins.

South Africa (Cape Province)



Haworthia semiviva (Poelln.) M.B.Bayer

LILIACEAE

Rosettes stemless to 6 cm in diameter and forming small clusters; leaves to 6 cm long, incurved, pellucid with green longitudinal lines, armed with translucent lanceolate bristles; inflorescence 35 cm tall; flowers brownish-white with brown veins. Photograph by Roberto Mangani.

South Africa (Cape Province)



Haworthia springbokvlakensis C.L.Scott

LILIACEAE

Rosettes stemless; leaves 3.5-4 cm long, dark green to reddish-brown; tip to 1.8 wide, translucent with tubercles and reticulated lines; inflorescence 30 cm long; flowers white with dark brown veins.

South Africa (Cape Province)



Haworthia truncata Schön.

LILIACEAE

Stemless plant; leaves distichous in opposite rows, 2-3.5 cm long and 1.5-3 cm wide, to 7 mm thick, brownish-green to reddish; upper surface truncate, convex, translucent, rough with minute tubercles; inflorescence 20 cm tall; flowers white with green veins. Plant photographed in habitat.

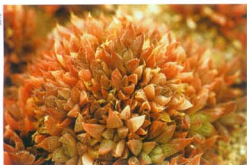
South Africa (Cape Province)



Haworthia truncata Schönl.

LILIACEAE

Small clump photographed in habitat.



Haworthia turgida Haw.

LILIACEAE

Rosette stemless 3-8 cm in diameter, very prolific; leaves 2-5 cm long, green, shiny, turning to reddish-brown when in full sun, inflorescence 50 cm tall; flowers white with green veins. Plant photographed in habitat.

Haworthia caespitosa Poelln.

South Africa (Cape Province)



Haworthia venosa

(Lam.) Haw. var. **woolleyi** M.B. Bayer

LILIACEAE

Rosettes stemless, 7-10 cm in diameter; leaves 7 cm long, light green with dark green lines, tuberculate; inflorescence 30 cm tall; flowers white with brownish-green veins.

Haworthia axwellii Poelln.

South Africa (Cape Province)



Haworthia viscosa (L.) Haw.

LILIACEAE

Stems erect, leafy, prolific from base, forming clumps; leaves 4 cm long, 1-2 cm wide at base, reddish-brown, olive or dark green; inflorescence 30 cm tall; flowers white with brown or green veins. Plant photographed in habitat.

Haworthia concinna Haw.

South Africa (Cape Province)



Haworthia wittebergensis Baker

LILIACEAE

Stemless plant, about 7 cm tall and 3 cm in diameter; leaves 7 cm long, purplish-green in the wild, becoming greener in cultivation; inflorescence 35 cm tall; flowers white with green veins.

South Africa (Cape Province)



Haworthia zantneriana Poelln.

LILIACEAE

Rosettes stemless to 9 cm in diameter, forming clusters; leaves 4-7 cm long, 6-8 mm wide narrowing towards tip, light grey-green or brownish-green; inflorescence to 25 cm tall; flowers white with pale green veins.

South Africa (Cape Province)



Haworthia zantneriana Poelln.

LILIACEAE
Cultivated specimen.



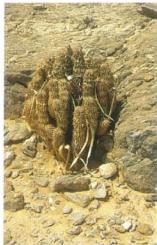
Hoodia alstonii (N.E.Br.) D.C.H.Plowes

ASCLEPIADACEAE
Plant forming clumps; stems to 15 cm tall, 3-5 cm in diameter, green tinged with blue; ribs spiny-tuberculate. Plant photographed in habitat by Charles H. Everson.
Trichocaulon alstonii N.E.Br.
South Africa (Cape Province)



Hoodia gordonii (Masson) Sweet

ASCLEPIADACEAE
Stems erect with 12-14 tubercled ribs; spines brown, woody, 1 cm long; flowers 7-10 cm in diameter, flesh coloured or brownish with longitudinal and transverse furrows.
South Africa (Cape Province)



Hoodia macrantha
Dinter

ASCLEPIADACEAE
Stems erect to 80 cm high, 8 cm in diameter; ribs tuberculate, armed with spines; flowers 15-20 cm in diameter, purplish, yellow along the nervus, covered with purple hairs. Plant photographed in habitat by Charles H. Everson.
Namibia



Hoodia sp.

ASCLEPIADACEAE
Unrecognized species from Cape Province, similar to *H. bunii* Dyer. Stems erect, 65-70 cm high, 4-4.5 cm in diameter, 13-15 angled; tubercles tipped with long spines, yellowish at first, later white; flowers 6-7 cm in diameter, yellow-cream tinged with pink, without hairs or papillae.
South Africa (Cape Province)



Hoya affinis Hems.

ASCLEPIADACEAE
Climbing shrub, freely branched; leaves pubescent, dark green; flowers 2.5-3 cm in diameter, waxy, brownish-purple with a yellow crown and dark brown centre. Photograph by Charles H. Everson.
Solomon Islands

**Hoya albiflora** Zipp. ex Blume

ASCLEPIADACEAE

Trailing plant; leaves opposite, fleshy, green; flowers in umbels, white, waxy, star-like. Photograph by Charles H. Everson.
Java, New Guinea

**Hoya campanulata** Blume

ASCLEPIADACEAE

Plant climbing; leaves opposite, fleshy; flowers white, in umbels, waxy. Photograph by Ann Wayman.
Malaysia, Sumatra, Thailand

**Hoya archboldiana** C.Norman

ASCLEPIADACEAE

Shrub trailing; leaves large, dark green; flowers in umbels, 5 cm in diameter, rose-red inside, light green outside. Photograph by Ann Wayman.
New Guinea

**Hoya carnosus** (L.) R.Br. cv. «Krimson Princess»

ASCLEPIADACEAE

Trailing shrub, fleshy; leaves ovate-cordate to ovate-elongate, 5-8 cm long, 4-5 cm wide; flowers in large umbels, 1.5 cm in diameter, white or flesh-coloured with red centre. This is a cultivar named «Krimson Princess» with leaves dark green, pink, white and yellow. Photograph by Charles H. Everson.
Asclepias carnosus L.
Australia, China

**Hoya australis** R.Br.

ASCLEPIADACEAE

A variable species with leaves of different size, shape and colour, from light green to dark green; flowers waxy, white with carmine-pink centre. Photograph by Lina Paul.
Australia

**Hoya carnosus** (L.) R.Br. cv. «Krinkle 8»

ASCLEPIADACEAE

Another cultivar with thick dark, glossy green leaves. Photograph by Charles H. Everson.

**Hoya ciliata** Elmer

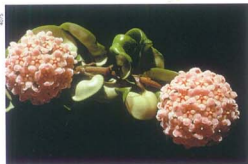
ASCLEPIADACEAE

Rambling shrub; leaves green, fleshy; flowers in umbels, dark purple-blackish with yellow centre, waxy. Photograph by Ann Wayman. Philippines

**Hoya cinnamifolia** Hook.

ASCLEPIADACEAE

Climbing shrub, branched; leaves olive green, veins silver; flowers 25-30 in umbels, yellow with brownish-red centre, waxy. Photograph by Ann Wayman. Java

**Hoya compacta** C.M.Burton cv. «Hindu Rope»

ASCLEPIADACEAE

Twining plant; leaves green, large, curled; flowers in large umbels, white or pink, waxy. Photograph by Charles H. Everson. Unknown origin

**Hoya crassicaulis** Elmer

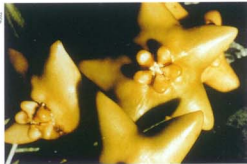
ASCLEPIADACEAE

Climbing shrub; leaves dark green, fleshy; flowers cream coloured, in large umbels, small, waxy. Photograph by Ann Wayman. Philippines

**Hoya curtisii** King & Gamble

ASCLEPIADACEAE

Plant freely branching; leaves green; flowers star-like cream-yellowish. Photograph by Charles H. Everson. Malaysia, Sumatra, Thailand

**Hoya** cv. «Gold Star»

ASCLEPIADACEAE

A cultivar with climbing stem; flowers yellow, waxy. Photograph by Ann Wayman. Garden origin

**Hoya cv. 'Pinkie'**

ASCLEPIADACEAE

A climber with dark green leaves; flowers white flushed with pink, waxy, in umbels. Photograph by Charles H. Everson.

Garden origin

**Hoya diptera W. Seem.**

ASCLEPIADACEAE

Climbing plant; stems thick, covered with dark green leaves; flowers white with pink centre, waxy, star-like. Photograph by Charles H. Everson.

Fiji

**Hoya darwinii Loher**

ASCLEPIADACEAE

Climbing plant; leaves 8 cm long, dark bluish-green, inhabited by ants in the wild; flowers pink-mauve with white crown and dark rose-red centre. Photograph by Ann Wayman.

Philippines

**Hoya eritryna Rintz**

ASCLEPIADACEAE

Climbing stems; leaves lime green, upper surface with deep green venation, lower surface dull maroon to pink; flowers in pendent umbels, butters-yellow. Photograph by Ann Wayman.

Malaysia, Sumatra, Thailand

**Hoya dimorpha E.M. Bailey**

ASCLEPIADACEAE

Stems thin, climbing; leaves dark blue-green; flowers in umbels of 35-40, golden yellow with white crown. Photograph by Charles H. Everson.

New Guinea

**Hoya excavata Teijsm. & Binn.**

ASCLEPIADACEAE

Trailing plant; leaves dark green, opposite; flowers pink with red centre, in umbels, waxy. Photograph by Ann Wayman.

Malaysia, Sumatra, Thailand

**Hoya gracilis** Schltr.

ASCLEPIADACEAE

Climbing stems; leaves dark green, lanceolate; flowers in umbels, pink with red crown. Photograph by Ann Wayman.
Philippines

**Hoya guppyi** Oliv.

ASCLEPIADACEAE

Climbing stems; leaves covered with hairs; flowers 2.5 cm in diameter, purple to maroon with yellowish centre. Photograph by Charles H. Everson.
Solomon Islands

**Hoya imperialis** Lindl.

ASCLEPIADACEAE

Climbing stems; leaves fleshy, green elongate; flowers in umbels with 6-8 large flowers, 5-7 cm in diameter, coppery-pink to brownish-red with pure white crown. Photograph by Charles H. Everson.
Borneo

**Hoya kerrii** Craib

ASCLEPIADACEAE

Climbing plant; leaves succulent, heart-shaped, 5-15 cm long and wide; flowers in umbels, white to dark pinkish-brown with age, brown-maroon crown. Photograph by Charles H. Everson.
Malaysia, Sumatra, Thailand

**Hoya macgillivrayi** F.M. Bailey

ASCLEPIADACEAE

Leaves 10 cm long, 5 cm wide, dark green, copper when young; flowers pendent, waxy, 7-7.5 cm in diameter, purple, on slender pedicels. Photograph by Ann Wayman.
Australia

**Hoya madulidii** Kloppenb.

ASCLEPIADACEAE

Climbing stems; leaves opposite, lanceolate; flowers star-like, waxy, brownish with yellow centre. Photograph by Ann Wayman.
Philippines



Hoya meliflua (Blanco) Merrill

ASCLEPIADACEAE

Climbing plant; leaves thick, glossy-green; flowers in globose umbels with 30 star-like flowers, deep pink. Photograph by Ann Wayman. Philippines



Hoya mindorensis Schltr.

ASCLEPIADACEAE

Stems trailing; leaves green, fleshy; flowers white with red centre, waxy, in pendent umbels. Photograph by Ann Wayman. Philippines



Hoya multiflora (Decne) Blume

ASCLEPIADACEAE

Climbing plant; leaves green, linear-elongate; flowers in umbels, star-shaped, dark yellow with white crown and purple centre. Photograph by Charles H. Everson. *Hoya coriacea* Blume Malacca



Hoya nicholsoniae F.Mull.

ASCLEPIADACEAE

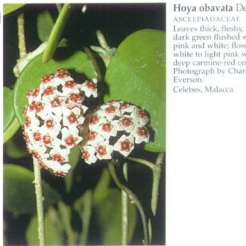
Twining stems; leaves green, purplish in sunshine; flowers in globose umbels, cream to yellow flushed with pink. Photograph by Ann Wayman. Australia



Hoya nummularioides Costantin

ASCLEPIADACEAE

Stems thin, climbing; leaves dull olive green, covered with fine hairs; flowers in umbels, small, white with pink centre. Photograph by Lina Paul. Laos, Cambodia, Thailand, Vietnam



Hoya obavata Decne.

ASCLEPIADACEAE

Leaves thick, fleshy, round, dark green flushed with pink and white; flowers white to light pink with deep carmine-red centre. Photograph by Charles H. Everson. Celebes, Malacca



Hoya obscura Elmer ex C.M.Burton

ASCLEPIADACEAE

Plant epiphytic with compact bushy growth; leaves light green; flowers waxy cream to pink. Photograph by Charles H. Everson, Philippines



Hoya pachyclada Kerr

ASCLEPIADACEAE

Shrub; leaves thick, olive green; flowers in umbels, white with white crown. Photograph by Charles H. Everson, Cambodia, Laos, Thailand, Vietnam



Hoya pauciflora Wight

ASCLEPIADACEAE

Bush; stems thick; leaves narrow, olive green; flowers bell-shaped, white with red centre. Photograph by Charles H. Everson, India, Sri Lanka



Hoya pubicalyx Merrill cv. «Red Buttons»

ASCLEPIADACEAE

Climbing stems; leaves light green; flowers in umbels, star-like, purple-red. This is a cultivar named «Red Buttons». Photograph by Charles H. Everson, Philippines



Hoya serpens Hook.

ASCLEPIADACEAE

Climbing shrub, freely branching; leaves round and small, deep green; flowers in pendent umbels, white, waxy. Photograph by Charles H. Everson, India



Hoya sheperdii Short ex Hook.

ASCLEPIADACEAE

Stems climbing; leaves dark green, 5-12 cm long, 1.5 cm wide; flowers 1-1.5 cm in diameter, white or pale pink with white crown and pink centre. Photograph by Ann Wayman, India

**Hoya sp. WMZ**

ASCLEPIADACEAE

An unrecognized species with trailing stems and large decorative foliage. Photograph by Charles H. Everson.

Origin unknown

**Hoya tsangii** C.M.Burton

ASCLEPIADACEAE

Trailing stems; leaves fleshy, green; flowers red, in umbels. Photograph by Ann Wayman.

Philippines

**Huernia aspera**
N.E.Br.

ASCLEPIADACEAE

Stems usually procumbent, 1-1.5 cm thick, to 20 cm long, tuberculate, 5-6-angled with small spicating teeth; leaves rudimentary at the apex of tubercles; flowers 2-2.5 cm in diameter, red-brown to blackish-purple.

Kenya, Malawi, Tanzania

**Huernia aspera** N.E.Br.

ASCLEPIADACEAE

The flowers.

**Huernia brevisrostris** N.E.Br.

ASCLEPIADACEAE

Stems erect or ascending to 5 cm long, 1-2 cm thick, dull dark green or purplish, 4-5-angled, acutely toothed; flowers 2.5-4 cm in diameter, variable in colour: whitish to brown, dark crimson or blackish, tinged with maroon.

South Africa

**Huernia campanulata**
(Masson) R.Br.

ASCLEPIADACEAE

Stems erect or ascending 5-10 cm long, 1-2 cm thick, green spotted with red, 4-5-angled, angles dentate; flowers sulphur-yellow with large black-purple blotches.

South Africa (Cape Province)



Huernia confusa Phillips

ASCLEPIADACEAE

Stems erect, 6 cm high, 4-5 angled, greyish-green with small teeth along the angles; flowers 2.5-3.5 cm in diameter, cream to buff-coloured with irregular red markings. Considered a synonym of *H. insigniflora* Masson. South Africa (Cape Province)



Huernia distincta N.E.Br.

ASCLEPIADACEAE

Stems 8-9 angled, strongly toothed; flowers 3-3.6 cm in diameter, dull yellow marked with red spots. Possible a natural hybrid of *H. clavata* (Jacq.) Haw. × *H. pillansii* N.E.Br. South Africa (Cape Province)



Huernia echidnopsioides (L.C. Leach) L.C. Leach

ASCLEPIADACEAE

Plant rhizomatous; stems 4-6 cm high, 1 cm thick, tuberculate, 7-9 angled, toothed; flowers 2-3 cm in diameter, yellowish to buff, densely papillate, covered with small red to brownish spots in labyrinthine patterns. *H. pillansii* ssp. *echidnopsioides* L.C. Leach South Africa (Cape Province)



Huernia guttata (Masson) N.E.Br.

ASCLEPIADACEAE

Stems decumbent or erect, 7 cm high, 1.5 cm thick, 4-5 angled, acutely toothed; flowers 2.5-7 cm in diameter, variably coloured and patterned, most commonly cream, blood red spots.

Huernia oliviginosa Haw., *H. celata* (Jacq.) Schultes South Africa (Cape Province)



Huernia hislopii Turill

ASCLEPIADACEAE

Stems 5-angled, 5 cm high, 1 cm thick, bluish-green, strongly toothed; flowers 4-5 cm in diameter, whitish or cream, with red-brown spots. Zimbabwe



Huernia hystrix (Hook f.) N.E.Br.

ASCLEPIADACEAE

Stems, erect or decumbent, 6-7 cm long, 5-angled, grey-green, strongly toothed; flowers 3-5 cm in diameter, densely papillose, yellow, marked with brown-red spots and lines.

H. appendiculata Berge Mozambique, South Africa

2006



Huernia insigniflora Masson

ASCLEPIADACEAE
Stems erect, branching from base, 4-angled, greyish-green, toothed; flowers with greenish-white, ivory lobes and crimson to brown annulus.
South Africa (Transvaal)

2075



Huernia kennediana Lavranos

ASCLEPIADACEAE
Stems 6-10-angled, short stout, usually globose, grey-green to purplish; flowers 2-2.5 cm in diameter, papillose, cream to dull yellow, with transverse red-brown spots.
South Africa (Cape Province)

2083



Huernia kirkii N.E.Br.

ASCLEPIADACEAE
Stems 4-5-angled, 2.5-4.5 cm high, to 1.8 cm thick, strongly knobbed, prostrate at the base; flowers 3-5 cm in diameter, cream marked with reddish-maroon spots, blackish in the tube.
H. bicampunctata Verd.
Zimbabwe, South Africa (Transvaal)

2103



Huernia leachii Lavranos

ASCLEPIADACEAE
Stems prostrate to 1.5 m long, 0.5-0.8 cm thick, 4-angled, cylindrical; flowers 2.5 cm in diameter, densely papillate, cream marked with purple lines.
Malawi, Mozambique

2110



Huernia macrocarpa (A.Rich.) Sprenger

ASCLEPIADACEAE
Stems erect to 9 cm long, green, 5-angled, prominently toothed; flowers 2 cm in diameter, brownish-red to blackish-purple, papillate. Reputedly a synonym of *H. jenzigii* N.E.Br.
Ethiopia, Somalia

2118



Huernia pendula E.A.Bruce

ASCLEPIADACEAE
Stems cylindrical, grey-green tinged with purple, 0.5-0.8 cm thick, to 1.5 m long; flowers dark purple-brown, densely papillate.
South Africa (Cape Province)

**Huernia procumbens** (R.A.Dyer) L.C.Leach

ASCLEPIADACEAE

Stems trailing, tuberculate, 1-1.5 cm thick, 5-angled; flowers 4-5.5 cm in diameter, cream with a prominent annulus and narrow lobes.

Durulia procumbens R.A.Dyer

South Africa

**Huernia whitesloniana** Nel

ASCLEPIADACEAE

Plant caespitose; stems to 5 cm high, 4-5-angled, strongly toothed, greenish-purple; flowers 1.2-2.2 cm in diameter, cream, with red purple spots, covered with minute papillae.

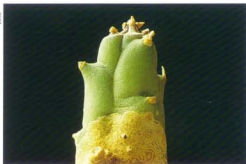
South Africa (Transvaal)

**Huernia recondita** M.G.Gilbert

ASCLEPIADACEAE

Stems cylindrical, procumbent, to 80 cm long, 1-1.2 cm wide, 4-angled; flowers yellow, marked with irregular red blotches, covered with papillae.

Ethiopia

**Huerniopsis decipiens** N.E.Br.

ASCLEPIADACEAE

Stems decumbent, 3-7 cm long, caespitose, 4-5-angled, armed with acute spreading teeth; flowers 2.5 cm in diameter, dull purple somewhat yellowish spotted.

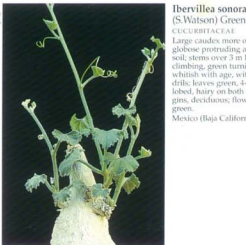
Botswana, Namibia, South Africa (Cape Province)

**Huernia** sp. Collenette 7828

ASCLEPIADACEAE

An unrecognized species collected by Sheila Collenette. Plant caespitose, stems 4-angled, grey-green, strongly dentate.

Saudi Arabia

**Ibervillea sonorae**

(S.Watson) Greene

CUCURBITACEAE

Large caudex more or less globose protruding above soil; stems over 3 m long, climbing, green turning whitish with age, with tendrils; leaves green, 4-7-lobed, hairy on both margins, deciduous; flowers green.

Mexico (Baja California)



***Ibervillea tenuisecta* Small**

CUCURBITACEAE

Caudex from which many twining stems with tendrils arise; leaves trilobate; flowers yellow.

Mexico



***Ipomoea holubii* Baker**

CONVOLVULACEAE

Caudex to 20 cm in diameter; stems numerous, thin; leaves green, filiform; flowers pink to purple. Photograph by Gaetano Palisano.

Botswana, Namibia



***Ipomoea* sp.**

CONVOLVULACEAE

Unidentified species from Karoo; caudex 10-12 cm in diameter, brown; stems annual, thin; leaves filiform, 3-5 cm long.

South Africa



***Jacaratia hassleriana* DC.**

CONVOLVULACEAE

Caudex oblong; stems thin; leaves heart-shaped.

Tropical regions



***Jatropa macrantha*
Müll.Arg.**

EUPHORBACEAE

Plant to 1 m tall; stems green; leaves to 3.5 cm long, green on the upper surface, brownish on the lower; inflorescence with red flowers.

Mexico, USA (Texas).



***Jatropa macrantha* Müll.Arg.**

EUPHORBACEAE

Flowers.

**Jatropa podagrica** Hook.

EUPHORBIACEAE

Dichotomously branched shrub with caudex 50 cm tall, three-lobed; leaves approximately 18 cm long and wide, green-glaucous below, borne at branch apices; inflorescence dichotomously branched; flowers scarlet. Close-up of flowers.

Central America

**Jordaaniella cupriata** H.E.K.Hartmann

MUSEMBRYANTHEACEAE

Branches to 6 cm long, creeping and forming compact groups; leaves pale green, reddish in full sun, to 6.5 cm long; flowers to 8 cm in diameter, red. Plant photographed in habitat by Charles H. Eversson.

Cephalophyllum cupreum L.Bolus
South Africa (Cape Province)

**Kalanchoe beharensis** Drake

CRASSULACEAE

Stem up to 3 m high; leaves up to 20 cm long and 10 cm wide, green with dense covering of fine hairs on both surfaces; inflorescence 60 cm tall; flowers greenish-yellow.

Madagascar

**Kalanchoe blossfeldiana** Poelln.

CRASSULACEAE

Dwarf shrub to 40 cm high, little branched; leaves 2-5 cm long, 4 cm wide, dark green. Many cultivars with flowers of different colours (yellow, red, pink, orange) have been produced in the last 20 years.

Kalanchoe globulifera var. *coccinea* Perr.
Madagascar

**Kalanchoe blossfeldiana** Poelln.

CRASSULACEAE

Flowers.

**Kalanchoe citrina** Schweinf.

CRASSULACEAE

Stem to 1 m tall; leaves obovate-lanceolate, 6 cm long, 1.2 cm wide, densely pubescent and with dentate margins; flowers yellow.

Arabia, Ethiopia, Kenya, Uganda



Kalanchoe daigremontiana Raym.-Hamet & Perr.

CRASSULACEAE

Flowerish erect stem to 1 m high; leaves 15-20 cm long, 2-3 cm wide, brown-red spotted, producing adventitious plantlets; flowers red to red-violet.

Madagascar



Kalanchoe daigremontiana Raym.-Hamet & Perr.

CRASSULACEAE

Inflorescence.



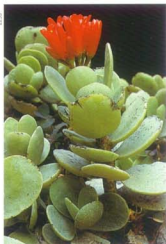
Kalanchoe eriophylla Hilsenb. & Boyer

CRASSULACEAE

Slender stem, much branched at the base; leaves ovate-elongate, 1.5-2 cm long, covered with dense hairs, brown tips; flowers violet or blue-violet.

Cotyledon pumosa W.F.Baker

Madagascar



Kalanchoe farinacea Balf.

CRASSULACEAE

Stems to 40 cm tall; leaves obovate, 2-2.7 cm long, grey-green with darker spots; flowers red. Considered a synonym of *K. scapigera* Welw. Angola, Yemen (Socotra)



Kalanchoe faustii Font Quer

CRASSULACEAE

Stem 30-70 cm high; leaves 6-8 cm long, 3-4 cm wide, ovate-acuminate, margins irregularly curled; flowers golden yellow.

Morocco



Kalanchoe flammea Stapf.

CRASSULACEAE

Stem to 40 cm high; leaves 6-7 cm long, 2.5-3 cm wide, narrowed at base, entire or crenate, pale grey-green; flowers bright orange-red. Considered a synonym of *K. ginsceris* Britten.

Somalia



Kalanchoe gastonis-bonnieri Raym.-Hamet & Perr.

CRASSULACEAE

Shrub to 60 cm high; leaves whitish-pruinose with brown-green spots, 16 cm long, 4 cm wide, adventitious plantlets at the apex; flowers pale green.

Madagascar



Kalanchoe gastonis-bonnieri Raym.-Hamet & Perr.

CRASSULACEAE

Young specimen. Photograph by Roberto Mangani.



Kalanchoe hildebrandtii Baill.

CRASSULACEAE

Shrubby or arborescent plant, 1.5 to 5 m high; leaves roundish 1.5-4 cm long, 1-3.5 cm wide, densely covered with white hairs; flowers white to cream.

Madagascar



Kalanchoe laciniata (L.) DC.

CRASSULACEAE

Stem erect to 1 m high; leaves glabrous or hairy, pinnately or deeply lobed; flowers yellowish.

K. rolofsii Engl.; *Kalanchoe schwininfurthii* Penz. Eastern to southern Africa, south India



Kalanchoe lanceolata (Forsk.) Pers.

CRASSULACEAE

Plant to 35 cm tall; leaves to 15 cm long and 6 cm wide, covered with fine hairs, margins entire or crenate; flowers yellow or orange.

Kalanchoe diversa N.E.Br.; *K. heterophylla* Wight East Africa, India



Kalanchoe longiflora Schltr. ex J.M.Wood

CRASSULACEAE

Simple stem, 4-angled; leaves ovate-oblong, 5.6 cm long, grey-green to yellowish with dentate margins; flowers yellow to orange.

Natal



Kalanchoe luciae Raym.-Hamet

CRASSULACEAE

Leaves in rosettes, obovate, entire, 6-16 cm long, 3-9 cm wide, glabrous or hairy, grey-green to yellowish-green with red margins; flowers yellowish-green.

South Africa (Cape Province, Transvaal)



Kalanchoe marmorata Baker

CRASSULACEAE

Stems branching from base; leaves obovate, 10 cm long, grey-green with brown spots and dentate margins; flowers white. Plant photographed in habitat.

Kalanchoe grandiflora A. Rich.

Eritrea



Kalanchoe marmoriana Jacobs

CRASSULACEAE

Small shrub 30 cm high, branched from base; leaves 1-2 cm long, 2-3 cm wide, grey-green; flowers yellow-orange to pink.

Madagascar



Kalanchoe peteri Werderm.

CRASSULACEAE

Plant 40-60 cm high; leaves 19 cm long and 10 cm wide, reddish-blue; margins crenate; flowers pale yellow.

Congo



Kalanchoe pinnata (Lam) Persoon

CRASSULACEAE

Erect stem to 1 m high; leaves at first simple, later pinnate, 7-13 cm long, producing plantlets; flowers whitish-reddish.

Erytophyllum calycinum Salisb.

Africa, tropical Asia and America, Australia

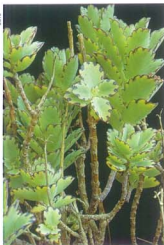


Kalanchoe prolifica (Bowie) Raym.-Hamet

CRASSULACEAE

Stem erect, 4-angled, offsetting at base, to 2 m tall; leaves simple or pinnate, 3-5 cm long, margins dentate; flowers greenish.

Madagascar



Kalanchoe serrata
G.Mann. & Boiteau

CRASSULACEAE

Small shrub to 60 cm high, branched from the base; leaves 4+ cm long, 2.5-4 cm wide, bluish-pruinose with red spots and dentate margins; flowers red-orange.
Madagascar



Kalanchoe thyrsofolia Harv.

CRASSULACEAE

Stem to 60 cm high; leaves 1-1.5 cm long, 5-7 cm wide, white-pruinose often with red margins; flowers yellow. Photograph by Charles H. Everson.

South Africa (Cape Province)



Kalanchoe tomentosa Baker

CRASSULACEAE

Shrub much branched, to 50 cm high; leaves 7 cm long, 2 cm wide, densely tomentose with dark blotches, margins entire or denticate; flowers yellow-brown. There are several cultivars in cultivation. This is a form with dark brown leaves.

Madagascar

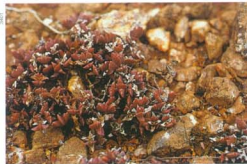


Kedrostis crassirostrata Bremek.

CUCURBITACEAE

Caudex to 10 cm in diameter; stems erect, climbing; leaves green, dentate; flowers yellowish-green.

Central and southern Africa



Lampranthus sp.

MESEMBRYANTHEMACEAE

An undescribed species photographed in habitat.



Lenophyllum acutifolium Rose

CRASSULACEAE

Stems 10-40 cm tall; leaves in pairs, to 12 in number, elliptic-lanceolate, upper surface grooved; flowers pale yellow.

Mexico

**Lenophyllum obtusum** Moran

CRASSULACEAE

Stems 20-30 cm tall; leaves in pairs, ovate, 2-4 cm long and wide; glaucous when young, dull purplish-green or brownish later; flowers yellow.
Mexico

**Lenophyllum reflexum** S.S. White

CRASSULACEAE

Stem to 4 cm high; leaves 2 cm long, 1.5 cm wide, green-reddish; flowers yellow.
Mexico

**Lenophyllum** sp.

CRASSULACEAE

Unidentified species from Mexico with stems to 10 cm high and long, acute leaves.
Mexico

**Lenophyllum** sp.

CRASSULACEAE

Close-up of flowers.

**Lithops coleorum** S.A. Hammer & R.Hijs

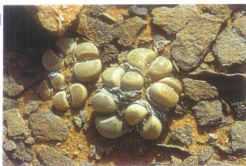
MESEMBRYANTHEMACAE

Leaves grey-brown with darker spots arranged in bands.
South Africa (Transvaal)

**Lithops gracilidelineata** Dinter

MESEMBRYANTHEMACAE

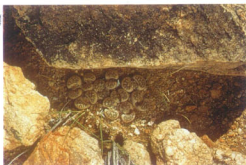
Body 1.5-3 cm in diameter; fissure deep; leaves almost equal in size, pale grey with a pattern of dark lines; flowers yellow. Plant photographed in habitat by Charles H. Everson.
Namibia

**Lithops herrei** L. Bolus

MESEMBRYANTHEACEAE

Bodies 2-3 cm in diameter; fissure deep; leaves divergent, grey to pale grey with dark lines; flowers yellow. Plant photographed in habitat by Charles H. Everson.

Lithops transvaerens L. Bolus
Namibia, South Africa (Cape Province)

**Lithops karasmontana** (Dinter & Schwantes) N.E.Br. ssp. *bella* (N.E.Br.) D.T.Cole

MESEMBRYANTHEACEAE

Bodies 2-3 cm in diameter; leaves divergent, grey-green with olive green spots; flowers white. Plant photographed in habitat by Charles H. Everson.

Namibia

**Lycium intricatum** Boiss.

SOLANACEAE

Finely branched shrub; stems up to 1 m tall with horizontal branches up to 2 m long; leaves 1.5 cm long and 3-6 cm wide, glaucous-green; flowers violet-purple or white. Plant photographed in habitat.
Canary Islands, northern Africa

**Lycium intricatum**

Boiss.

SOLANACEAE

The fruits. Plant photographed in habitat.
Canary Islands, northern Africa

**Malephora lutea** (Haw.) Schwantes

MESEMBRYANTHEACEAE

Shrubs, forming mats over 30 cm wide; leaves fused at base, 2.5-4 cm long, semi-cylindrical, blue-pruinose to white-pruinose; flowers yellow. Plant photographed in habitat.
South Africa (Cape Province)

**Malephora lutea** (Haw.) Schwantes

MESEMBRYANTHEACEAE

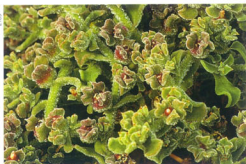
Flowering plant photographed in habitat.



Massonia depressa Houtt.

LILIACEAE

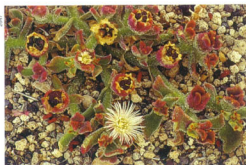
Bulbous plant; leaves 7-15 cm long, fleshy, usually 2 in number; inflorescences with 20-30 flowers green, yellowish-white or pink to red or brown. Plant photographed in habitat by Charles H. Everson. South Africa (Cape Province)



Mesembryanthemum crystallinum Boiss.

MESEMBRYANTHEMACAE

Annual plant; stems succulent, creeping; leaves 10-15 cm long, undulate, succulent; stems and leaves covered with watery papillae; flowers white or pinkish. Plant photographed in habitat (Canary Islands). Macronesia and Mediterranean region



Mesembryanthemum crystallinum Boiss.

MESEMBRYANTHEMACAE

Flowering plant photographed in habitat (Canary Islands).



Mesembryanthemum crystallinum Boiss.

MESEMBRYANTHEMACAE

Plant photographed in South Africa by Charles H. Everson.



Mesembryanthemum nodiflorum L.

MESEMBRYANTHEMACAE

Annual plant; stems fleshy, to 20 cm long; leaves 1-2.5 cm long, grey-green with large papillae; flowers white. South Africa (Cape Province); naturalized in southern Europe, Middle East and California.



Mitrophyllum affine L. Bolus

MESEMBRYANTHEMACAE

Branches, reddish-brown, to 15 cm long; leaves 3 cm long, fused for 1 cm at base; flowers yellow. South Africa (Cape Province)



Mitrophyllum pillansii N.E.Br.

MESEMBRYANTHEMACEAE

Plant about 15 cm tall; leaves of two types: united in conical bodies 4-8 cm long and 2-3 mm thick, or free to 9 cm long and 2 cm wide at base ending in a short, papillose tip; flowers white.
South Africa (Cape Province)



Mitrophyllum tenuifolium L.Bolus

MESEMBRYANTHEMACEAE

Plant to 6 cm tall; branches ascending, glabrous, brown or yellow-green; leaves of different sizes, from 0.5 cm to 2.5 cm long; flowers yellow.
South Africa (Cape Province)



Momordica repens
Bremek.

CUCURBITACEAE

Roots tuberous; stems to 6 m long, with tendrils; leaves compound; flowers yellowish-orange.
South Africa (Transvaal)



Monadenium affinis
orobanchooides

P.R.O.Bally

EUPHORBACEAE

Unidentified species close to *M. orobanchooides* P.R.O.Bally, with small caudex and ovate red on the lower surface.
Tanzania



Monadenium ritchei P.R.O.Bally

EUPHORBACEAE

Roots tuberous; stems cylindrical, trailing, sparsely branched, to 40 cm long, 1.5-2.5 cm thick; tubercles to 0.7 cm high, crowned by 3-5 spines; leaves fleshy, dark green with serrulate margins; inflorescence solitary, whitish-green with pale pink veins.
Kenya



Monadenium rubellum (P.R.O.Bally) S.Carter

EUPHORBACEAE

Stems erect, fleshy, to 25 cm tall, striped green-purple; leaves 4.5 cm long, purple tinged; inflorescence forked; flowers pink. Close-up of flowers.
Kenya

2020

**Monadenium schubertii**

Pax

EUPHORBIAEAE

Stems erect or decumbent to 45 cm high, 4 cm thick, covered with prominent tubercles rectangular or hexagonal at base, to 1 cm tall, bearing 4-6 spines; leaves deciduous with undulate-crenate margins.
Mozambique, Zimbabwe

2020

**Monadenium stapelioides** Pax

EUPHORBIAEAE

Stems erect, decumbent, to 15 cm long; tubercles arranged in spirals; leaves green, 3-5 cm long, present on growing parts of stems; flowers pink.
Kenya, Tanzania

2010

**Monanthes brachycaulon** (Webb & Berthel) Lowe

CRASSULACEAE

Rosettes small; stems 5 mm in diameter forming small clumps; leaves greenish or reddish, to 1.5 cm long; inflorescence with small flowers 3-5 mm in diameter, pale yellow, with red stripes. Plant photographed in habitat.

Monanthes aliphaphila Svent.; *M. praegeri* Brasmwell
Canary Islands (Tenerife, Gran Canaria)

2008

**Monanthes laxiflora** (DC.) Bolle

CRASSULACEAE

Small plant with woody reddish stems; leaves yellow-green to dark green sometimes with red dots; inflorescence with small flowers, yellow to red. Plant photographed in habitat.

Canary Islands (Tenerife, Gomera, Gran Canaria, Lanzarote, Fuerteventura)

2017

**Monanthes minima** (Bolle) H.Christ

CRASSULACEAE

Root tuberosus with dense offset rosettes; leaves bluntly rounded, ciliate; flowers yellow, often with red stripes. Plant photographed in habitat.

Monanthes dasiphylla Svent.

Canary Islands (Tenerife)

2010

**Monanthes pallens** (Webb) H.Christ

CRASSULACEAE

Fibrous root with rosettes up to 5 cm in diameter; leaves acute or truncate at apex, soft, glaucous; flowers 3-4 mm in diameter, red-brownish sometimes with reddish-brown stripes. Plant photographed in habitat.

Monanthes silensis (Praeger) Svent.

Canary Islands (Tenerife, Hierro, Gomera)



Monilaria obconica Ihlenf. & S.Jörg.

MESEMBRYANTHEACEAE

Leaves thin, 3-4 cm long, green, cylindrical; new growth covered in shining papillae; flowers white.

South Africa (Cape Province)



Monilaria salmonea L.Bolus

MESEMBRYANTHEACEAE

Plant 10 cm tall; branches with 2-4 leaves; leaves green, 3-4 cm long; flowers salmon-red.

South Africa (Cape Province)



Moringa drouhardii Jum.

MORINGACEAE

Tree to 15 m tall; trunk swollen, to 2 m in diameter, covered with smooth white bark; branches numerous at top of trunk; leaves three-pinnate; flower in axillary panicles. Young plant.

Madagascar



Muiria hortense N.E.Br.

MESEMBRYANTHEACEAE

Plant forming large clumps; leaves fused except for an apical slit, light green, covered with velvety hairs; flowers pink-white.

South Africa (Cape Province)



Myrmecodia lamii
G.Merr. & T.A.Perry

RUBIACEAE

Caudex to 1 m tall, 40 cm thick, spiny, with holes inhabited by ants; stems 10-40 cm long, spiny; leaves to 10 cm long; flowers white. Plant photographed in habitat by Agostino Tomasello.

New Guinea



Myrmecodia lamii
G.Merr. & T.A.Perry

RUBIACEAE

Specimen growing on a tree, photographed in habitat by Agostino Tomasello.



Nananthus transvaalensis (Rolfé) L.Bolus

MESEMBRYANTHEMACEAE

Stems thick; leaves 2-3 cm long, unequal in size, 2-3 cm long, dull green, with large tubercles toward leaf margins; flowers light yellow.

Alotopsis transvaalensis (Rolfé) Schwantes.

South Africa (Transvaal)



Nolina longifolia (Schult.) Hemsl.

AGAVACEAE

Stem to 2 m tall, base swollen; leaves to 1 m long, dark green with rough margins; flowers cream-white.

Mexico



Nolina microcarpa S.Watson

AGAVACEAE

Leaves 60-100 cm long, grass-like, apex brush-like; flowers cream-white.

California, Mexico



Nolina recurvata (Lem.) Hemsl.

AGAVACEAE

Caudex globose over 1 m in diameter; stems low, to 6 m tall; leaves dark green, to 1 m long and 1-2 cm wide; inflorescence branched; flowers white.

Boucaura recurvata Lem. Mexico



Nolina recurvata (Lem.) Hemsl.

AGAVACEAE

Flowering plant.



Oophytum nanum (Schltr.) L.Bolus

MESEMBRYANTHEMACEAE

Plant 2 cm tall; leaves fused into bodies 5-7 mm in diameter, green, covered with fine papillae; flowers white with red margins. Plant photographed in habitat by Charles H. Everson.

South Africa (Cape Province)



Orbeopsis lutea (N.E.Br.) L.C. Leach

ASCLEPIADACEAE

Stems branching from base, 5-10 cm high, dentate, 4-angled, green mottled purple; flowers in clusters, 5-7 cm in diameter, very variable in colour: yellow, reddish-brown, variegated red and yellow; ciliate with purple hairs. *Carallium lutea* N.E.Br.

Botswana, Mozambique, South Africa, Zimbabwe



Orbeopsis lutea (N.E.Br.) L.C. Leach ssp. *vaga* (N.E.Br.) L.C. Leach

ASCLEPIADACEAE

A variety with maroon flowers. *Carallium vaga* (N.E.Br.) A.C. White & B. Sloane

Angola, Namibia, South Africa



Orbeopsis melanantha (Schltr.) L.C. Leach

ASCLEPIADACEAE

Stems procumbent, 5-7 cm tall, 4-angled, with acute triangular teeth; flowers 5 cm in diameter, black-brown with concentric grooves and ciliate margins.

Carallium melanantha (Schltr.) N.E.Br.; *Stapelia furcata* N.E.Br.

Mozambique, South Africa



Ornitogalum sp. Lavranos 26172

LILIACEAE

Undescribed species; bulb to 15 cm in diameter; leaves narrow, 30-40 cm long; flowers yellowish-green.

Southern Africa



Orostachys chanettii (Lév.) A. Berger

CRASSULACEAE

Rosettes small to 1.5 cm in diameter; leaves of two different lengths, linear, grey-green; flowers white with red outside.

China



Orostachys erubescens A. Berger

CRASSULACEAE

Rosettes small growing in clumps; leaves green or grey-green of two different lengths, soft tips; flowers white.

China, Japan, Korea



Orostachys spinosum (L.) A.Berger

CRASSULACEAE

Rosettes 8-10 cm in diameter, growing in clumps; leaves of two different lengths, grey-green with white soft spiny tips; flowers yellow. East CIS, north and central Asia



Orthopterum coegana L.Bolus

MESEMBRYANTHEMACEAE

Plant forming small clumps; leaves 3-4 cm long, crowded at stem apices, light green with darker green dots; flowers golden yellow. South Africa (Cape Province)



Orthopterum walloniae L.Bolus

MESEMBRYANTHEMACEAE

Plant forming small clumps; leaves oblong-lanceolate, 2-3 cm long, light green covered with dark green dots; flowers golden yellow with reddish lower surface. South Africa (Cape Province)



Oscularia deltooides (L.) Schwantes

MESEMBRYANTHEMACEAE

Shrub 20-30 cm tall, freely branching; stems reddish, with numerous short shoots from axils; leaves blue-grey, 1 cm long, triangular, armed with reddish teeth and ending in a short tip; flowers pink. South Africa (Cape Province)



Othonna armiana vanJaarsv.

COMPOSITAE

Caudex 3-7 cm in diameter with blackish-brown caudex; stems to 2 cm long, covering the upper surface of caudex; leaves green tinged with purple below; inflorescence to 10 cm tall; flowers yellow. South Africa (Cape Province)



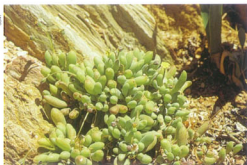
Othonna cacalioides L.f.

COMPOSITAE

Caudex to 10 cm in diameter, branches very short; leaves arising from woolly tufts of the caudex, to 2.5 cm long, grey-green; inflorescence to 8 cm tall; flowers yellow. Namibia, South Africa (Cape Province)



Othonna cacalioides
L.f.
COMPOSITAE
Flowers.



Othonna capensis Baill.

COMPOSITAE

Plant creeping and forming mats; branches prostrate, to 1 m long and 4 mm thick; leaves cylindrical, fleshy, green to deep red when grown in full sun; inflorescence to 15 cm tall; flowers yellow.

Othonna crassifolia Harc.; *O. filiculis* Eckl.

South Africa (Cape Province)



Othonna euphorbioides Hutch.

COMPOSITAE

Shrubs to 30 cm in diameter; branches 2 cm thick, covered with peeling yellowish bark; remains of inflorescences persisting, to 4 cm long; leaves caducous, glaucous-green, to 4 cm long; inflorescence 3-5 cm long; flowers greenish-yellow.

South Africa (Cape Province)



Othonna hallii Nord.
COMPOSITAE
Caudex 4-8 cm in diameter with blackish-brown bark; branches very short; leaves deciduous; fleshy, to 8 cm long, glaucous blue-green; inflorescence to 25 cm tall; flowers yellow.
South Africa (Cape Province)



Othonna lepidocaulis Schltr.

COMPOSITAE

Taproot 2.5 cm in diameter, continuing into the stem; leaves caducous, to 9 cm long, glaucous grey-green; inflorescence to 20 cm long; flowers yellow.

South Africa (Cape Province)



Othonna quercifolia DC.

COMPOSITAE

Shrub with small spherical caudex; stems fleshy, slender, arising from caudex; leaves dark green, 6-7 cm long, 2.5 cm wide; inflorescence about 3 cm long; flowers yellow. Photograph by Alberto Marvelli.

Namibia, South Africa (Cape Province)



Othonna retrofracta Jacq.
 COMPOSITAE
 Caudex with peeling bark; stems to 40 cm tall, light brown; leaves caducous, 3-6 cm long, fleshy, dark or bluish-green; inflorescence to 5 cm long; flowers yellow.
Othonna immutabilis Schinz;
O. litoralis Ditr;
O. pinnatifida Sch. Bip.;
O. surculosa Muschl. ex Dtt.
 Namibia, South Africa (Cape Province)



Othonna retrofracta Jacq.
 COMPOSITAE
 Flower.



Oxalis carnosa Molina
 OXALIDACEAE
 Stems fleshy, erect to sprawling, little branched, to 40 cm tall; leaves on petioles 8 cm long, succulent, shiny above; flowers bright yellow.
 Bolivia, Chile, Galapagos Islands, Peru



Pachyphytum bracteosum Link, Klotzsch & Otto
 CRASSULACEAE

Stem to 30 cm tall; leaves whitish-grey, 6-10 cm long, 2-3 cm wide; inflorescence to 30 cm tall; flowers red.
 Mexico



Pachyphytum bracteosum Link, Klotzsch & Otto
 CRASSULACEAE
 Flowers.



Pachyphytum brevifolium Rose
 CRASSULACEAE

Stem to 25 cm high, branched from base; leaves 2-4 cm long, blue often reddish; flowers carmine to dark red.
 Mexico

**Pachyphytum compactum** Rose

CRASSULACEAE

Stem to 10 cm high; leaves cylindrical, 2-3 cm long, green to grey-white pruinose; flowers reddish. A cristate form.
Mexico

**Pachyphytum fittkaui** Moran

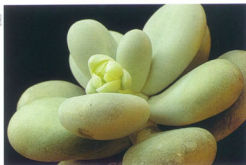
CRASSULACEAE

Stem to 20 cm tall, 1.5 cm thick; leaves 3-5 cm long, flattened, green with grey-white minute spots; flowers red.
Mexico

**Pachyphytum longifolium** Rose

CRASSULACEAE

Stem to 10 cm high; leaves 6 cm long, clavate or lanceolate, grey-green; flowers dark red.
Mexico

**Pachyphytum oviferum** J.A.Purpus

CRASSULACEAE

Short stem; leaves obovate 2-4 cm long; 2-2.5 cm wide, reddish or white pruinose; flowers red.
Mexico

**Pachypodium baronii** Const. & Bois var. *windsorii* Pichon

APOCYNACEAE

Stems globose, to 10 cm in diameter; branches thick, cylindrical, spines short; leaves at the ends of branches; flowers red.
Madagascar

CITES App. I

**Pachypodium bispinosum** (L.f.) DC.

APOCYNACEAE

Variety of *P. succulentum* with pink to dull purple flower. Photograph by Gaetano Palisano.
Madagascar

CITES App. II

**Pachypodium lamerei** Drake

APOCYNACEAE

Tree to 8 m tall, spiny; leaves dark green to 20 cm long, present at growing apices; flowers white. Photograph by Gaetano Palisano.

Madagascar

CITES App. II

**Pachypodium namaquanum** Welw.

APOCYNACEAE

Stems spiny, to 3 m tall, branching when old; spines brown, 5 cm long; leaves hairy, 8-12 cm long and 2-6 cm wide, clustered at stem apices; flowers brownish-red. Plant photographed in habitat by Charles H. Everson.

Namibia, South Africa (Cape Province)

CITES App. II

**Pachypodium rosulatum** Baker.

APOCYNACEAE

Caudex large; stems forked, to 3 m tall, spiny; spines to 1 cm long; leaves 3-8 cm long, elliptic; flowers on long peduncles, yellow. Plant photographed in habitat by Paolo Ormas.

Madagascar

CITES App. II

**Pachypodium saundersei** N.E.Br.

APOCYNACEAE

Stems clavate, with wide base and numerous erect branches; leaves 4-8 cm long, green, hairy; flowers white with red stripes.

South Africa (Natal), Zimbabwe

CITES App. II

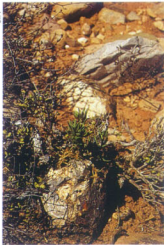
**Pachypodium succulentum** DC.

APOCYNACEAE

Caudex to 15 cm in diameter growing underground in habitat; stems fleshy, branched, 20-60 cm long; leaves 5-8 cm long, 1 cm wide, present on new shoots; spines in pairs, 1-2 cm long; flowers pink.

South Africa (Cape Province)

CITES App. II

**Pachypodium succulentum** DC.

APOCYNACEAE

Plant photographed in habitat.

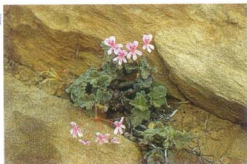
CITES App. II



Pelargonium alternans H.Wendl.
GERANIACEAE
Plant to 40 cm tall and 40 cm in diameter; stems glaucous to dark grey-brown, succulent, branched, to 6 cm long; leaves stalked, green, hairy; flowers white to light pink. South Africa (Cape Province)



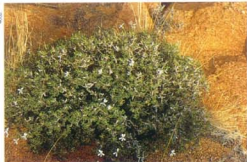
Pelargonium echinatum Curtis
GERANIACEAE
Stems fleshy, to 60 cm tall, covered with recurved spines; leaves velvety; flowers white, pink or purple. South Africa



Pelargonium fulgidum (L.) L'Hér.
GERANIACEAE
Stems succulent, woody, branched, to 60 cm tall; leaves to 10 cm long, silvery; inflorescence branched; flowers pink to scarlet. Plant photographed in habitat by Charles H. Everson. South Africa



Pelargonium histrix Harv.
GERANIACEAE
Plant to 10 cm tall; stems dark grey-black, covered with persistent stipules; leaves bipinnate, hairy; inflorescence to 10 cm tall with creamy white flowers. South Africa (Cape Province)



Pelargonium xerophyllum Schltr.
GERANIACEAE
Plant forming large cushions 30-60 cm tall; branches 1 cm thick, woody, green to dark green covered in grey skin and short spines; leaves 1 cm long at tips of branches; flowers white marked with red. Plant photographed in habitat by Charles H. Everson. Namibia



Peperomia asperula Hutchison & Rauh
PIPERACEAE
Stems erect, succulent; leaves to 2 cm long and 1 cm wide at base, folded along main vein, grey-green, translucent above. Peru

2040



Peperomia columella
Rauh & Hutchison

PIPERACEAE

Stems succulent, erect to sprawling, freely branching; leaves succulent, to 8 mm long and 6 cm wide, green to dark green with translucent shiny windows above.
Peru

2041



Peperomia columella
Rauh & Hutchison

PIPERACEAE

Inflorescence.

2042



Peperomia longispicata DC.

PIPERACEAE

Stems succulent, sprawling, freely branching; leaves slightly succulent, ovate, to 4 cm long, green to dark green.
Central America

2043



Plectranthus ernestii Codd.

LABIATAE

Plant to 25 cm tall; stems thickened at base, to 2 cm in diameter; bark white-brown; leaves erect, 4 cm long, glandular; flowers pale bluish-mauve.

South Africa (Natal)

2044



Plectranthus ernestii
Codd.

LABIATAE

Flowers.

2045



Pleiosipilos nelii Schwantes

MESEMRYANTHACEAE

Stemless plant, leaves in pairs, semi-cylindrical, grey-green with numerous dark dots; flowers yellow-pink to orange. Photograph by Charles H. Everson.

Pleiosipilos palmiculatus L. Bolus

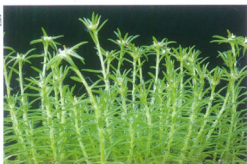
South Africa (Cape Province)



Plumeria hypoleuca Gasp.

APOCYNACEAE

Tree to 7 m tall; leaves green to dark green, to 20 cm long; flowers white. Central America



Portulaca cyanosperma Egler

PORTULACACEAE

Tap-root thick; stems cylindrical, green when young, later hairy; leaves cylindrical, greenish to reddish; flowers dark pink.



Portulaca grandiflora Hook.

PORTULACACEAE

Stems to 30 cm long, ascending or prostrate; leaves cylindrical, to 2.5 cm long, succulent; flowers variable from red to yellow or white. Argentina, Brazil, Uruguay



Portulaca sp.

PORTULACACEAE

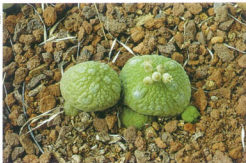
An unidentified species from Mexico. (Nuevo Leon, Sierra el Diablo), with small cylindrical fleshy leaves and terminal flowers. Mexico



Portulacaria afra Jacq.

PORTULACACEAE

Shrub much branched; branches spreading, segmented, succulent; leaves obovate to 2 cm long, glossy green; flowers pale pink, in small clusters. South Africa



Pseudolithos caputviperae Lavranos

ASCLEPIADACEAE

Stems tuberculate, yellowish-grey or grey-grown; flowers small, whitish spotted with red. Photograph by Gaetano Falisano. Somalia



Pseudolithos caputviperae Lavranos

ASCLEPIADACEAE

Mature specimen. Photograph by Gaetano Palisano.



Pseudolithos migiurtinus (Chiov.)
P.R.O.Bally

ASCLEPIADACEAE

Stems spherical to 12 cm high and 12 cm wide, pale green to grey-green; flowers 1-1.5 cm in diameter, purple-brown.

Photograph by Gaetano Palisano.

Pseudolithos sphaericus (P.R.O.Bally) P.R.O.Bally;
Whitsonia migiurtina Chiov.
Somalia



Pseudolithos migiurtinus (Chiovenda) P.R.O.Bally

ASCLEPIADACEAE

Specimen with ripening follicles releasing seeds. Photograph by Gaetano Palisano.



Psilocaulon parviflorum
Schwanter

MESEMBRYANTHEACEAE

Shrubs to 30 cm tall; branches cylindrical; leaves small, opposite, cylindrical; flowers white. Plant photographed in habitat.

South Africa



Pterodiscus sp.

PEDALIACEAE

An unrecognized species with fleshy caudex and erect branches; leaves dark green, hairy below, glabrous above, undulate margins; flowers pale yellow with purple blotch in the tube and suffused mauve lobes.

Kenya



Pterodiscus speciosus
Hook.

PEDALIACEAE

Caudex obconic or cylindrical, to 40 cm in diameter; branches few, to 15 cm long; leaves linear with margins dentate; flowers purple-red.

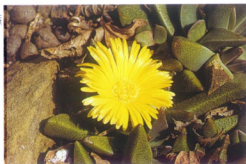
South Africa



Pterodiscus speciosus Hook.

PEDALIACEAE

Flower. Photograph by Gaetano Palisano.



Rabiea albipuncta (Haw.) N.E.Br.

MESSEMBRYANTHEACEAE

Leaves 6-8 together, 2.5 to 4 cm long, green with numerous tuberculate dots; flowers 3 cm in diameter, straw yellow to flesh-coloured. Photograph by Alessandro Mosco.

Alainpinia albipuncta (Haw.) Schwantes
South Africa (Orange Free State)



**Rhinephyllum
macradenium**
(L.Bolus) L.Bolus

MESSEMBRYANTHEACEAE

Stems short, woody, covered at base with remains of old leaves; leaves unequal in size, 2-6 cm long, triangular, greenish; flowers yellowish. Plant photographed in habitat. South Africa (Cape Province)



Rosularia alpestris (Kar. & Kiroloff) A.Boriss.

CRASSULACEAE

Small rosettes 1.5-6 cm in diameter; leaves fresh green; flowers white with red stripes.

Sempervivella acuminata (Decne.) A.Berger
Himalayas, Pamir, Tibet



Rosularia sedoides (Decne.) H.Ohba

CRASSULACEAE

Small rosettes 2-3.5 cm in diameter; leaves light green, hairy; flowers white.

Sempervivella alba (Edgew.) Stapf.
Kashmir



Rosularia sedoides (Decne.) H.Ohba

CRASSULACEAE

Leaves.



Rosularia sedoides (Decne.) H. Ohba
 CRASSULACEAE
 Flowers.



Rosularia sempervivum (Marsh & M. Bieb.) A. Berger
 CRASSULACEAE
 Leaves in small rosettes, grey-green to dark green; flowers whitish to pink.
 Iran, Turkey, Syria, Lebanon, Israel



Rosularia sempervivum (Marsh & M. Bieb.) A. Berger
 CRASSULACEAE
 Flowers.



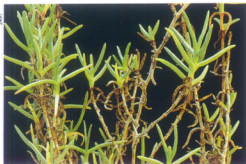
Rosularia serpentina (Werderm.) Muirhead
 CRASSULACEAE
 Small rosettes; leaves bluish-green; flowers cream-white.
 Turkey



Ruschia diutina
 L. Bolus
 MESEMBRYANTHEMACTAE
 Small shrubs; leaves triangular, fused around stems; flowers white.
Polygona diutina (L. Bolus)
 L. Bolus
 South Africa (Cape Province)



Ruschia maxima
 (Haw.) L. Bolus
 MESEMBRYANTHEMACTAE
 Shrub 30 cm tall; leaves 4.5 cm long, 2 cm wide, grey to white-grey, 3-angled, compressed laterally with an arcuate keel; flowers pink.
 South Africa (Cape Province)



Ruschia multiflora (Haw.) Schwantes

MESEMBRYANTHEMACEAE

Shrub to 1 m tall and 2 m in diameter; branches brown with grey skin, erect, forked; leaves fused at base, 1-2 cm long, grey-green with transparent dots; flowers white.

South Africa (Cape Province)



Ruschia perfoliata (Mill.) Schwantes

MESEMBRYANTHEMACEAE

Shrub to 50 cm tall; leaves light grey flushed with red, 1-2 cm long, fused at base, triangular, with a reddish spinescent tip; flowers rose-red.

South Africa (Cape Province)



Ruschia rubricaulis L. Bolus

MESEMBRYANTHEMACEAE

Small shrub with angled reddish branches; leaves 2-4 cm long and 4-6 mm wide, 3-angled, with slight cartilaginous margins, green; flowers pale purple.

South Africa (Cape Province)



Ruschia sarmentosa (Haw.) Schwantes

MESEMBRYANTHEMACEAE

Shrub to 60 cm wide; branches spreading, prostrate, rooting at nodes; leaves light green with transparent dots, triangular with rounded edges and reddish tip; flowers reddish.

South Africa (Cape Province)



Ruschia sp.

MESEMBRYANTHEMACEAE

Unidentified species photographed in habitat.

South Africa (Cape Province)



Sansevieria aethiopica Thunb.

AGAVACEAE

Leaves erect ending in a withered tip, to 50 cm tall and 1.5 cm wide, dark green with pale green bands; flowers white to green.

Photograph by Roberto Mangani.

Southern and tropical Africa



Sansevieria conspicua
N.E.Br.

AGAVACEAE
Subterranean rhizome; leaves few, up to 60 cm long and 7 cm wide, dark green with red margins; inflorescence up to 75 cm tall; flowers whitish. Plant photographed in habitat. Southern Africa



Sansevieria cylindrica
Bojer

AGAVACEAE
Leaves to 75 cm tall, cylindrical, banded with pale green when young; flowers whitish-green. Photograph by Roberto Mangani. Angola



Sansevieria desertii
N.E.Br.

AGAVACEAE
Subterranean rhizome; leaves to 1 m long and 3 cm wide, deeply sulcate, dull green; flowers white, in clusters. Plant photographed in habitat. Botswana, Transvaal, Zimbabwe



Sansevieria desertii
N.E.Br.

AGAVACEAE
Plant photographed in habitat.



Sansevieria gracilis N.E.Br.

AGAVACEAE
Short stems, to 8 cm long; leaves 20-60 cm long and 9 cm in diameter, dark green. Photograph by Roberto Mangani. Southern Africa



Sansevieria grandis
Hook.

AGAVACEAE
Few leaves, broadly lanceolate, to 60 cm long and 15 cm wide, dull green with paler marks. Photograph by Roberto Mangani. Tropical Africa

3007



Sansevieria hyacinthoides
(L.) Druce

AGAVACEAE

Rhizome elongated; leaves up to 45 cm long and 8 cm wide, leaves few, dark green with transverse pale green bands; flowers greenish-white. Plant photographed in habitat.
Southern Africa

3001



Sansevieria hyacinthoides (L.) Druce

AGAVACEAE

A smaller form photographed in habitat beside an *Albizia* sp.

3005



Sansevieria kirkii Baker

AGAVACEAE

Leaves to 1 m long, 7-8 cm wide, grey-green with paler marks, flat; margins undulate, red-brown. Photograph by Roberto Mangani.
Tropical East Africa

3003



Sansevieria powellii
N.E.Br.

AGAVACEAE

Stems to 50 cm long; leaves arranged in spirals, 40-70 cm long and to 5 cm wide, slightly recurved, banded. Probably a natural hybrid between *S. arborescens* Haert ex Gentil and *S. ehrenbergii* Schweinf. ex Baker.
Photograph by Roberto Mangani.
Southern Africa

3004

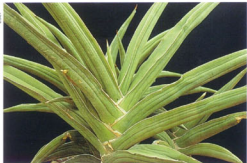


Sansevieria raffillii
N.E.Br.

AGAVACEAE

Leaves 60-100 cm long and 7-12 cm wide, erect; green with pale spots and bars.
Photograph by Roberto Mangani.
Tropical East Africa

3002



Sansevieria rorida (Lanza) N.E.Br.

AGAVACEAE

Stems to 35 cm tall; leaves distichous, triangular, grey-green, ending in a strong spine; inflorescence to 1 m tall, branched; flowers whitish with reddish stripes.
Sansevieria rorida Lanza
Somaliland



Sansevieria singularis N.E.Br.

AGAVACEAE

Leaves to 45 cm long, banded, arising from soil. The photograph shows a young plant. Photograph by Roberto Mangani.

Tropical Africa



Sansevieria trifasciata
Prain

AGAVACEAE

Leaves erect, to 75 cm tall, 7 cm wide, in cluster of 1-5 per shoot, glaucous, banded pale and dark green. Photograph by Roberto Mangani.

Nigeria



Sansevieria zeylanica
(L.) Willd.

AGAVACEAE

Leaves with light and dark green bands, erect, 45-75 cm long, arranged in rosettes. Photograph by Roberto Mangani.

Sri Lanka



Sarcocaulon crassicaule Rehm

GERANIACEAE

Shrub to 50 cm tall; branches thick with spines 2-3 cm long; leaves caducous, 1.5 cm long, 1 cm wide; flowers white or light pink. Plant photographed in habitat by Charles H. Everson.

Namibia, South Africa (Cape Province)



Sarcocaulon crassicaule Rehm

GERANIACEAE

Flower. Plant photographed in habitat.



Sarcocaulon paniculatum Moffett

GERANIACEAE

Shrub to 10 cm tall, 20 cm in diameter; stems branching at ground level, grey-white; leaves ciliate, 5 cm long; flowers rose to pale pink. Plant photographed in habitat by Charles H. Everson.

Namibia

**Sarcocaulon patersonii** (DC.) G.Don

GERANIACEAE

Shrub to 50 cm tall, 2 cm long; leaves caducous, 1.2 cm long, 0.8 cm wide; flowers rose pink, light magenta or purple. Plant photographed in habitat by Charles H. Everson.

South Africa

**Sarcocaulon rigidum** Schinz

GERANIACEAE

Low plant; main stem 3-4 cm thick; branches growing horizontally, 1 cm in diameter, to 15 cm long, with spines to 3 cm long; leaves bilobed, green; flowers bright red. Plant photographed in habitat.

Namibia

**Sarcocaulon vanderritiae** L.Bolus

GERANIACEAE

Plant to 15 cm tall, 25 cm in diameter; stems 1 cm thick, with thin spines to 3.5 cm long; leaves thick, glabrous; flowers pale pink.

South Africa (Cape Province)

**Sarcocaulon vanderritiae** L.Bolus

GERANIACEAE

Flower.

**Sarcostemma viminale** R.Br.

ASCLEPIADACEAE

Stems erect, cylindrical, 5 mm thick, light green, dichotomously branching; leaves inconspicuous; flowers white-yellowish. Photograph by Charles H. Everson.

Namibia, South Africa (Cape Province)

**Schlechteranthus hallii** L.Bolus

MESEMBRYANTHEMACEAE

Dwarf shrubs with woody roots; leaves to 1 cm long, armed with 1-2 teeth, fused at base to half their length; flowers purple-rose.

Namibia, South Africa (Cape Province)

**Scilla pauciflora** Baker

LILIACEAE

Small bulbs, offsetting and forming large clumps; leaves pale green with dark green marks; flowers greenish.

South Africa

**Sedeveria** cv. «Harry Butterfield» Hort

CRASSULACEAE

Hybrid between *Sedum morganianum* Walther and *Echeveria derenbergii* J.A. Purpus. Stems pendent covered with fleshy yellowish-green leaves; flowers pale pink-yellow. Close-up of stem tips.

**Sedeveria** cv. «Harry Butterfield» Hort

CRASSULACEAE

Flowers.

**Sedum acre** L.

CRASSULACEAE

Low herb, caespitose; stems erect, much branched; leaves imbricated, appressed to one another, 15 mm long, glabrous, light green; flowers bright yellow.

Europe, northern Africa

**Sedum cepaea** L.

CRASSULACEAE

Plant annual or biennial; leaves linear-ovate, mid-green, in flat rosette elongated to produce a terminal pyramid of flowers; flowers white with a purple keel.

Sedum galioides Ait.; *S. paniculatus* Lam.

Central and southern Europe

**Sedum clavatum** Clausen

CRASSULACEAE

Creeping stems, marked with old leaf scars; leaves pale green-glaucous, often tinged red, crowded at the tips of stems; flowers white.

Mexico



Sedum compressum Rose

CRASSULACEAE

Subshrub to 20 cm high; leaves 2 cm long, 1 cm wide, oblanceolate, grey-green with cartilaginous margins, in loose rosettes at the stem tips; flowers golden yellow to orange.

Mexico



Sedum hispanicum L.

CRASSULACEAE

Annual plant, 5-15 cm high, branched from the base; leaves linear to elongate-lanceolate, 1-2.5 cm long, glaucous-green or grey becoming pink; flowers white with a pinkish tipped vein.

Sedum aristatum Ten.; *S. hungaricum* Poir.; *S. puberulum* DC.
Europe, Asia Minor



Sedum dasyphyllum L.

CRASSULACEAE

Low herb, 2-6 cm high; leaves opposite, crowded along the stems, ovate, 3-7 mm long, blue-green, glandular-papillose or pubescent; flowers white with a pink keel. Variable species.

Sedum burnatii Briq.; *S. glanduliferum* Guss.; *S. glaucum* Lam.
North Africa, Europe



Sedum lucidum Clausen

CRASSULACEAE

Stems prostrate to 35 cm long, branched; leaves alternate, elongate, 4 cm long, 6-1.9 mm wide, yellowish-green; flowers white.

Mexico



Sedum frutescens
Rose

CRASSULACEAE

Stem stout, arborescent; leaves 2-6 cm long, light green, loosely crowded at the branch tips; flowers white.

Mexico



Sedum moranense
Humb., Bonpl. & Kunth.

CRASSULACEAE

Small herbs, branched from the base; leaves 2-3 cm long, 2 mm wide, green with red tips; flowers white.

Mexico



Sedum nussbaumerianum Bitter

CRASSULACEAE

Subshrub to 15 cm high; leaves lanceolate, 4 cm long, yellow-greenish, crowded at the tips of the stems and scattered along lower parts; flowers pure white. Photograph by Roberto Mangani. Mexico



Sedum oxypetalum Humb., Bonpl. & Kunth.

CRASSULACEAE

Arborescent plant to 90 cm high; stems with several branches, bare at base, with peeling bark; leaves ovate-lanceolate, 2.5-3.8 cm long, bright green; flowers white, flushed purple. The photograph shows a young plant. Mexico



Sedum oxypetalum Humb., Bonpl. & Kunth.

CRASSULACEAE

Close-up of leaves.



Sedum rubrotictum cv. «Aurora» Hort

CRASSULACEAE

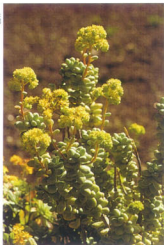
Stems leafy, erect or decumbent; leaves colour salmon with silvery tinge, red purple in full sun; flowers cream. Photograph by Roberto Mangani.



Sedum spectabile Boreau

CRASSULACEAE

Stems 30-50 cm tall, arising from base annually; leaves 7.5 cm long, 5 cm wide, glabrous green-glaucous, edges faintly dentate; flowers pink. Japan, central China



Sedum treleaseii Rose

CRASSULACEAE

Subshrub with woody branches; leaves crowded along the branches, oblong-ovate, 3 cm long, blue-green, grey, pruinose; flowers yellow. Mexico



Sedum winkleri (Willk.) Wolley-Dod

CRASSULACEAE

Erect stems, few branched, leaves at growing apices, light green-yellowish; flowers white with a reddish-green dorsal vein. Considered a synonym of *S. hirsutum* All.
Iberian peninsula



Semperivium andreaeanum Wale

CRASSULACEAE

Rosette 1.5-4 cm in diameter; leaves glabrous, margins ciliate, tip reddish-brown; flowers pale pink to red. According to Smith, this is a form of *S. fectorum* L.
Spain



Semperivium arachnoideum L. x *pittonii* Schott, Nyn. Kotschy

CRASSULACEAE

Rosettes 3-4 cm in diameter; leaves pale green with reddish translucent apex with a tuft of hair, margins ciliate; flowers pink or yellow. Natural hybrid.
Austria



Semperivium balcanicum Stoj. & Stef.

CRASSULACEAE

Rosettes 3-4 cm in diameter; leaves green to orange-red, glabrous with dark tip.
Bulgaria



Semperivium ballsii Wale

CRASSULACEAE

Stolons 1-1.5 cm in diameter, to 10 cm long; rosettes 3 cm in diameter; leaves erect near the centre, 1.8 cm long, yellow-green; flowers pink with red centre.
Greece, Caucasus



Semperivium charadzae M.Gurgen.

CRASSULACEAE

Rosettes 8-12 cm in diameter, stolons to 30 cm long; leaves pale green, short hairs on upper and lower surfaces; flowers pink-red.
Georgia



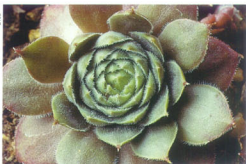
Sempervivum cv. «Aglow» Ed Skrochi, USA 1981
 CRASSULACEAE
 Rosettes 6 cm in diameter; leaves purplish-red, short hairs.



Sempervivum cv. «Bedivere» Ed Skrochi, USA 1973
 CRASSULACEAE
 Rosettes 2.3 cm in diameter, stoloniferous; leaves green with base and tip purple-red.



Sempervivum cv. «Apache» Martin Haberer, Germany 1980
 CRASSULACEAE
 Rosettes 4 cm in diameter; leaves elongated, pale green, hairy, ciliate, with a tuft of hair at the tip.



Sempervivum cv. «Belladonna» Sandy McPherson, USA 1970
 CRASSULACEAE
 Rosettes 5 cm in diameter; leaves purple-red, velvety.



Sempervivum cv. «Aross» Ben Zonneveld, Netherlands 1982
 CRASSULACEAE
 Rosettes 1-1.5 cm in diameter, stoloniferous; leaves dark red with a tuft of hair at the tip. Hybrid of *S. arachnoides* L. × *S. ossetense* Wale.



Sempervivum
 cv. «Black Velvet»
 David Ford, UK 1985
 CRASSULACEAE
 Rosettes 5-6 cm in diameter; leaves linear, dark red.



Sempervivum cv. «Bronco» Martin Haberer, Germany 1980

CRASSULACEAE

Rosettes 3-4 cm in diameter; leaves brownish-red, base paler.



Sempervivum cv. «Carmen» Helen Payne, USA

CRASSULACEAE

Rosettes 8 cm in diameter; leaves yellowish-green with brownish-red tip.



Sempervivum cv. «Cafe» David Ford, UK 1984

CRASSULACEAE

Rosettes 2-3 cm in diameter; leaves brownish-green with brown tips.



Sempervivum cv. «Corsair» David Ford, UK 1976

CRASSULACEAE

Rosette 5-7 cm in diameter, very stoloniferous; leaves crimson-red with white long cilia.



Sempervivum cv. «Candy Floss» David Ford, UK 1976

CRASSULACEAE

Rosettes 2-3 cm in diameter; leaves flushed red with long white hairs.



Sempervivum cv. «Dakota» Martin Haberer, Germany

CRASSULACEAE

Rosettes 7-8 cm in diameter; leaves glabrous, brownish-green with pinkish-purple base and dark tip.



Sempervivum cv. «Dark Beauty» Tom Lewis, UK
 CRASSULACEAE
 Rosettes 5-6 cm in diameter; leaves dark, almost black in summer.



Sempervivum cv. «Deepfire» Ed Skrocki, USA 1986
 CRASSULACEAE
 Rosettes 3-4 cm in diameter, stoloniferous; leaves orange-red with long white cilia.



Sempervivum cv. «Director Jacobs» Gustaaf van der Steen, Belgium 1975
 CRASSULACEAE
 Rosettes 4-5 cm in diameter; leaves numerous, dark red with silvery cilia.



Sempervivum cv. «Edge of Night» Kevin Vaughn, USA 1977
 CRASSULACEAE
 Rosettes 4 cm in diameter; leaves green with brownish-red tip.



Sempervivum cv. «El Toro» David Ford, UK
 CRASSULACEAE
 Rosettes 5-6 cm in diameter; leaves dark red with green tip.



Sempervivum cv. «Excalibur» Ed Skrocki, USA 1972
 CRASSULACEAE
 Rosettes 3 cm in diameter, stoloniferous; leaves pinkish-green, hairy, base and tip red.



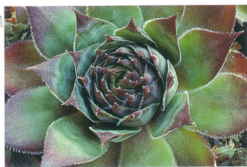
Sempervivum cv. «Festival» Otakar Cmiral, Czech Rep.
CRASSULACEAE
Rosettes 8 cm in diameter; leaves wide, pale green with red tips.



Sempervivum cv. «Georgette» David Ford, UK 1985
CRASSULACEAE
Rosettes 2-2.5 cm in diameter; leaves elongated, pale green to red, very hairy and ciliate.



Sempervivum cv. «Flaming Heart» Patty Brown, USA 1974
CRASSULACEAE
Rosettes 4 cm in diameter; leaves red with green base.



Sempervivum cv. «Gipsy» David Ford, UK 1979
CRASSULACEAE
Rosettes 8 cm in diameter; leaves glabrous, dark red with green base.



Sempervivum cv. «Frosty» David Ford, UK 1985
CRASSULACEAE
Rosettes 3-4 cm in diameter; leaves green, hairy, tip dark brown.



Sempervivum cv. «Greenwich Times» Kevin Vaughn, USA 1968
CRASSULACEAE
Rosettes 2.5-3 cm in diameter; leaves elongated, green tinged pink.



Sempervivum cv. «Greyola» Ed Skrocki, USA 1981
 CRASSULACEAE
 Rosettes 4 cm in diameter; leaves brownish-green, velvety.



Sempervivum cv. «Happy» Ed Skrocki, USA 1981
 CRASSULACEAE
 Rosettes 5-7 cm in diameter; leaves wine-red with green tip.



Sempervivum cv. «Hot Peppermint» Anna Adams, UK
 CRASSULACEAE
 Rosettes 3-3.5 cm in diameter; leaves hairy, pale green flushed with red.



Sempervivum cv. «Jack Frost» Anna Adams, UK
 CRASSULACEAE
 Rosettes 3.5-4 cm in diameter; leaves green, long cilia.



Sempervivum cv. «Jewel Case» Ed Skrocki, USA 1976
 CRASSULACEAE
 Dense rosettes 2-3 cm in diameter; leaves glossy red.



Sempervivum cv. «Jungle Fire» Shirley Rempel, USA
 CRASSULACEAE
 Rosettes 2-3 cm in diameter; leaves dark red flushed with brown.



Sempervivum cv. «King George» A. Hansen, UK
CRASSULACEAE
Rosettes 2 cm in diameter; leaves elongate, hairy.



Sempervivum cv. «Medallion» Ed Skrocki, USA 1976
CRASSULACEAE
Rosettes 5-6 cm in diameter, stoloniferous; leaves flat, brownish.



Sempervivum cv. «Lavander and Old Lace» Helen Payne, USA
CRASSULACEAE
Rosettes 4 cm in diameter; leaves narrow, pink-purple to green-glaucous, silvery cilia.



Sempervivum cv. «Mystic» David Ford, UK 1981
CRASSULACEAE
Rosettes 5-6 cm in diameter; leaves pale green tinged with pink.



Sempervivum cv. «Lilac Time» E. Milton, UK
CRASSULACEAE
Rosettes 5-6 cm in diameter; leaves pale lilac.



Sempervivum cv. «Noir» Nicholas Moore, UK 1950
CRASSULACEAE
Rosettes 6-8 cm in diameter; leaves numerous, reddish-brown.



Sempervivum cv. «Pippin» Betty Brown, USA

CRASSULACEAE

Rosettes 5-6 cm in diameter; leaves with brownish-red tip and long cilia.



Sempervivum cv. «Pixie» Bill Nixon, USA 1972

CRASSULACEAE

Rosettes 2-3 cm in diameter; leaves green to reddish with a tuft of white hair at the apex.



Sempervivum cv. «Risque» Kevin Vaughn, USA 1976

CRASSULACEAE

Rosettes 4 cm in diameter; leaves purple-pink.



Sempervivum cv. «Seminole» Martin Haberer, Germany 1984

CRASSULACEAE

Rosettes 3-3.5 cm in diameter; leaves velvety, grey-green tinged with pink.



Sempervivum cv. «Superama» Ed Skrocki, USA 1972

CRASSULACEAE

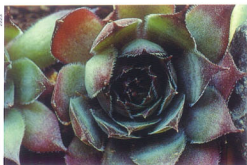
Rosettes 5-6 cm in diameter; leaves green tinged with dark red, long cilia.



Sempervivum cv. «Topaz» Goos & Koenemann, Germany 1937

CRASSULACEAE

Rosettes 3 cm in diameter; leaves golden-green with red tips.



Sempervivum cv. «Zaza» Nicholas Moore, UK

CRASSULACEAE

Rosettes 2-3 cm in diameter; leaves glaucous-green with brownish-red tips.



Sempervivum macedonicum Praeger

CRASSULACEAE

Rosette 2-3 cm in diameter, stoloniferous; leaves dark green, often tinged with red, hairy; flowers crimson-red.

Yugoslavia (former)



Sempervivum giuseppii Wale

CRASSULACEAE

Rosettes 2.5-3.5 cm, stoloniferous; leaves pale green, hairy and ciliate, tip red, flowers pink to red. It is probably a hybrid between *S. arachnoideum* L. and *S. contabricum* J.A.Huber.

Spain



Sempervivum marmoreum Griseb.

CRASSULACEAE

This is a form from Monte Tirone (Italy) with pale green leaves and ciliate margins. It could be a form of *S. italicum* Ricci.

Italy (Alburni)

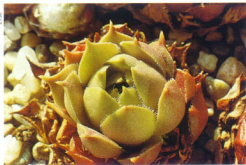


Sempervivum ingwersenii Wale

CRASSULACEAE

Rosettes 3-4 cm in diameter with numerous reddish stolons up to 15 cm long; leaves 1-1.5 cm long, with red-brownish tip; flowers red with white margins.

Caucasus



Sempervivum marmoreum Griseb. cv. «Brunneifolium»

CRASSULACEAE

Rosette 3 cm in diameter, leaves green, the outer tinged with red, tip brown, margins ciliate; flowers variable, crimson or pink with white margins. The plant illustrated is a cultivar with leaves red in winter and brown in summer.

Eastern Europe

2012



Sempervivum octopodes Turrill var. **apetalum** Turrill

CRASSULACEAE

Rosette 2.5-3 cm in diameter; leaves numerous, green with brownish tinge at the apex; flowers without petals and stamens.
Yugoslavia (former) (Mt Peristeri)

2164



Sempervivum ossetiense Wale

CRASSULACEAE

Rosette 3 cm in diameter; leaves hairy, pale green with brown tip; flowers crimson with white margins.
Caucasus

2110



Sempervivum reginae-amaliae Hledr. & Guicc.

CRASSULACEAE

Rosettes 2-3 cm in diameter; leaves hairy, ciliate, variable in colour; flowers crimson with median band and white margins. Possibly a form of *S. marmoratum* Griseb.
Albania, Greece

2010



Sempervivum sosnowskii Ter-Chatsch.

CRASSULACEAE

Rosette 6-8 cm in diameter; leaves glabrous, green, tip reddish-brown; flowers yellow.
Caucasus

2108



Sempervivum tectorum L.

CRASSULACEAE

Extremely variable species, rosettes 3-15 cm in diameter or more; leaves yellow-green to dark green or red-brown, with or without brown tips and purple base, glabrous or hairy; flowers pink. The photograph shows a natural form with leaves brownish-green in summer, and purple-red base.
Pyrenees, Alps, Apennines, northern Balkan regions

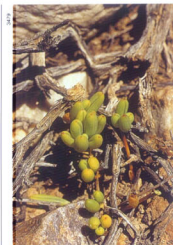
2007



Sempervivum tectorum L.

CRASSULACEAE

This form has red leaves with green tip.



Senecio abbreviatus

S.Moore

COMPOSITAE

Stems prostrate, rooting, 20 cm long and more; leaves very succulent, erect, ovoid, glaucous grey-green with longitudinal translucent stripes; inflorescence to 6 cm tall; flowers yellow. Plant photographed in habitat.

South Africa (Cape Province)



Senecio acaulis (L.f.) Sch.Bip.

COMPOSITAE

Plant with tuberous root and short thick stems to 10 cm tall; leaves cylindrical, to 15 cm long, grass green with a longitudinal translucent window; inflorescence to 20 cm tall; flowers yellow.

South Africa (Cape Province)



Senecio anteuphorbium (L.) Sch.Bip.

COMPOSITAE

Shrub 1-2.5 m tall; branches glaucous, succulent, ascending, divergent, pale green, striated and with white spots; leaves deciduous, grey-green; inflorescence to 10 cm tall; flowers greenish or yellowish-white.

Kleinia anteuphorbium (L.) Haw.; *K. pteroneura* DC.; *Senecio-pteroneurus* (DC.) Sch.Bip. & Hook.f.
Arabia, Oman, North & East Africa



Senecio crassissimus

Humb.

COMPOSITAE

Shrub to 80 cm tall; branches numerous, leafy towards top, leaf-scarred below; leaves to 10 cm long, variable in colour, veined; inflorescence to 100 cm tall; flowers yellow. Madagascar



Senecio crassifolius (DC.) Sch.Bip.

COMPOSITAE

Plant to 15 cm tall; branches 8-10 cm long, covered with leaves; leaves elliptic to clavate, to 6 cm long, green with red tips when grown in full sun; inflorescence to 20 cm tall; flowers white. Plant photographed in habitat.

Kleinia crassifolia DC.
South Africa (Cape Province)



Senecio crassifolius

(DC.) Sch.Bip.

COMPOSITAE

Plant photographed in habitat.



Senecio ficoides (L.) Sch.Bip.

COMPOSITAE
Shrub to 1 m tall; branches covered in leaf scars below; leaves 10-15 cm long, bluish-white, waxy, with longitudinal translucent stripes; inflorescence 30-60 cm tall; flowers white. Plant photographed in habitat.

Kleinia ficoides (L.) Haw.;
Senecio crassifolius Hutch.



Senecio kleinia (L.) Less.

COMPOSITAE
Dichotomously branched shrub up to 3 m tall; leaves 10-20 cm long and 1-2 cm wide, crowded at stem apices, grey-green; inflorescence 6 cm long; flowers white. Plant photographed in habitat.

Kleinia neriifolia Haw.;
Senecio neriifolius (Haw.) Baill.
Canary Islands (Palma, Gomera, Hierro, Tenerife, Gran Canaria, Lanzarote, Fuerteventura).



Senecio nyikensis Baker

COMPOSITAE
Shrub to 2 m tall with swollen base and soft stems; branches fleshy; glaucous tinged with purple; leaves pale green or purplish; inflorescence 20-40 cm tall; flowers bright red to deep pink.
Central and East Africa



Senecio nyikensis Baker

COMPOSITAE
Flower.



Senecio picticaulis P.R.O.Bally

COMPOSITAE

Plant with swollen base and succulent stems; branches erect, to 30 cm tall; leaves to 11 cm long, cylindrical, deciduous; inflorescence 20 cm tall; flowers bright red. The photograph shows a cristate specimen.

Senecio subulatus (Bally) Jacobs; *S. subulatifolius* G.D.Rowley
East Africa



Senecio pyramidatus DC.

COMPOSITAE

Shrub to 1.5 m tall with few erect branches; leaves present at the top of branches, cylindrical, 8-12 cm long; inflorescence 15-30 cm tall; flowers yellow.

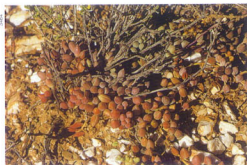
South Africa (Cape Province)



Senecio radicans (L.f.) Sch.Bip.

COMPOSITAE

Plant prostrate, creeping, forming mats; branches 1 m long or more, with adventitious roots; leaves erect, 2-3 cm long, green to purple in sunny conditions, with a longitudinal window and several translucent stripes; inflorescence to 15 cm long; flowers white. Plant photographed in habitat. South Africa (Cape Province)



Senecio radicans (L.f.) Sch.Bip.

COMPOSITAE

Plant photographed in habitat.



Senecio scaposus DC.

COMPOSITAE

Plant stemless or with very short stem; few branches, succulent; leaves in rosettes, cylindrical, 3-10 cm long; inflorescence 20-40 cm tall; flowers yellow. Plant photographed in habitat.

South Africa (Cape Province)



Senecio sempervivus (Forssk.) Sch.Bip.

COMPOSITAE

Plant with swollen caudex and soft stems, to 40 cm tall; leaves crowded in terminal rosettes, 5-10 cm long, pale bluish-green sometimes flushed with purple; inflorescence 30-40 cm tall; flowers red to pinkish-purple. East Africa, Yemen



Senecio serpens G.D.Rowley

COMPOSITAE

Stems prostrate; leaves sub-cylindrical, depressed or grooved on upper surface, light greyish-bluish, pruinose; flowers white.

Kleinia repens (L.) Haw.; *Senecio repens* (L.) Muschl.; *S. succulentus* Sch.Bip. South Africa (Cape Province)



Sphalmanthus sp.

MESEMBRYANTHEACEAE

Unidentified specimen photographed in habitat. South Africa (Cape Province)



Sphalmanthus viridiflorus (Aiton) N.E.Br.

MESEMBRYANTHEACEAE

Roots woody; stems fleshy, branching, to 40 cm long; leaves green, persisting as short spines after drying; flowers pale green.

Nyctanthus viridiflorus (Aiton) Schwantes

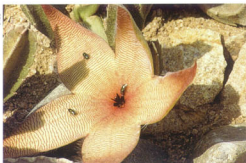


Stapelia comparabilis A.C. White & B. Sloane

ASCLEPIADACEAE

Hybrid between *Stapelia* and *Tromotriche*, similar to *Stapelia incomparabilis* N.E.Br.

South Africa



Stapelia gigantea N.E.Br.

ASCLEPIADACEAE

Stems to 25 cm high, pubescent, 4-angled; leaves caducous, acute, 0.2-0.3 cm long; flowers 12.5-40 cm in diameter, flat or with deep central depression, light yellow to buff, reddish or purplish, covered with pale purplish hairs. A variable species.

S. marlothii N.E.Br.; *S. nobilis* N.E.Br.

Botswana, Kenya, Malawi, Mozambique, Tanzania, Zambia, Zimbabwe



Stapelia gigantea N.E.Br.

ASCLEPIADACEAE

Specimen with yellowish flowers and central depression. Photograph by Gaetano Palisano.



Stapelia grandiflora

Masson

ASCLEPIADACEAE

Stems to 25 cm high, hairy; flowers 13-16 cm in diameter, pale red to brown-purple with yellow transverse lines and covered with purple hairs. Very variable species.

Stapelia ambigua Masson;

S. desmetiana N.E.Br.;

S. flavinervis N.E.Br.;

S. spectabilis Haw.

South Africa (Cape Province)



Stapelia grandiflora Masson

ASCLEPIADACEAE

Clone-up of flower.

South Africa (Cape Province)



***Stapelia hirsuta* L.**

ASCLEPIADACEAE

Stems erect to 20 cm high, dull green armed with minute teeth; flowers 10-12 cm in diameter, dull reddish-yellow covered with soft purple hairs.

Stapelia pulcherrima Don

South Africa (Cape Province)



***Stapelia hirsuta* L.**

ASCLEPIADACEAE

Close-up of flower of another specimen.



***Stapelia hirsuta* L.**

ASCLEPIADACEAE

Plant photographed in habitat.



Stapelia hirsuta

ASCLEPIADACEAE

Cristate specimen.



***Stapelia incomparabilis* N.E.Br.**

ASCLEPIADACEAE

Stems 8-15 cm high with toothed angles; flowers 7.5-8.5 cm in diameter, rugose, purple-red sometimes with transverse yellowish lines.

Hybrid of *Stapelia* × *Trometrache*

South Africa



***Stapelia mutabilis* Jacq.**

ASCLEPIADACEAE

Stems to 15 cm high, greyish-green with spreading teeth; flowers 7 cm in diameter, greenish-yellow covered with transverse brownish lines and dots, tips brown. A hybrid of *Stapelia* sp. × *Trometrache* sp.

Other *mutabilis* Sweet; *Stapelia passerini* Ted.

South Africa

***Stapelia praeterissa***

L.C. Leach

ASCLEPIADACEAE

Erect stems 12-15 cm high, 4-angled, toothed; flowers 3-5 cm in diameter, reddish-purple to dark maroon, covered with fine hairs. South Africa (Cape Province)

***Stapelia prognatha*** P.R.O. Bally

ASCLEPIADACEAE

Stems to 10 cm long, erect or procumbent, branching from base and forming clumps; ribs toothed; flowers to 3 cm in diameter, blue-purple.

Orbea prognatha (P.R.O. Bally) L.C. Leach
Somalia

***Stapelia* sp.**

ASCLEPIADACEAE

An unrecognized plant found in cultivation. Probably a hybrid of *Stapelia gigantea* N.E.Br.

***Stapelia* sp.**

ASCLEPIADACEAE

Probably a hybrid of *Stapelia gettiffei* Pott.

***Stapelia* sp.**

ASCLEPIADACEAE

Probably another hybrid of *Stapelia gettiffei* Pott.

***Stapelia variegata* L. var. *curtisii* (Haw.) N.E.Br.**

ASCLEPIADACEAE

Plant caespitose; stems 5-10 cm high with acute teeth along the angles, green or greyish-green mottled purple; flowers 5-8 cm in diameter, greenish-yellow with brown spots. Considered a synonym of *Orbea variegata* Haw.

Orbea curtisii Haw.; *Orbea modesta* Haw.
South Africa (Cape Province)



Stapelia variegata L. var. pallida N.E.Br.

ASCLEPIADACEAE

Flowers pale yellow with brownish spots. A plant with unusual six lobed flowers. Considered a synonym of *Orbea (Stapelia) variegata* Haw. South Africa (Cape Province)



Stapelia variegata L. var. picta (Donn) N.E.Br.

ASCLEPIADACEAE

Flowers 5-5.5 cm in diameter, yellow or sulphur yellow marked with black-purple transverse stripes and confluent large spots. Considered a synonym of *Orbea (Stapelia) variegata* Haw. *Orbea picta* Haw.; *Stapelia picta* Donn South Africa (Cape Province)



Stapelia variegata L. var. rugosa (Donn) N.E.Br.

ASCLEPIADACEAE

Flowers greenish-yellow with dark purple-brown spots and irregular transverse lines. Considered a synonym of *Orbea variegata* Haw. *Orbea rugosa* Haw.; *Stapelia rugosa* Donn; *Tridentea rugosa* Schult. South Africa (Cape Province)



Stapelianthus decaryi Choux

ASCLEPIADACEAE

Stems erect, brownish, 10 cm tall, 7-8-angled, dentate; teeth armed with small spines; flowers cream with dark purple spots, fleshy papillae and minute hairs inside. Madagascar



Suadea fruticosa (L.) Forssk.

CHENOPODIACEAE

Shrubs 30-60 cm tall, spreading; leaves linear, thick, sub-cylindrical, to 1 cm long, pale green; flowers inconspicuous, red. Worldwide distributed in salty meadows along shore.



Talinum paniculatum (Jacq.) Gaertn.

PORTULACACEAE

Roots tuberous; stems erect, to 1 m tall; leaves 10 cm long, elliptic; flowers red to yellow.

Southern USA to Central America

**Talinum sp. Nuovo Leon**

PORTULACACEAE

Leaves fleshy, linear, 6-7 cm long, grey-green; flowers white.
Mexico**Talinum sp. Transvaal**

PORTULACACEAE

Small caudex with erect stems; leaves dark green, margins undulate; flowers light yellow.

South Africa (Transvaal)

**Tanquana prismatica** (Schwantes) H.E.K.Hartmann & Liede

MESEMBRYANTHEACEAE

Leaves triangular, 3-4 cm long, green to grey with dark spots, convex lower surface; leaves in pairs, 1-2 pairs of leaves from each shoot, forming small clumps; flowers yellow.

Pleiospila prismaticus (Mariloth) Schwantes

South Africa (Cape Province)

**Tinospora caffra**

(Miers) Troupin

MENISPERMACEAE

Shrubs woody, small; leaves 2-5 cm long, 2-3 cm wide, dark green, pubescent.

Kenya, Sudan, Uganda

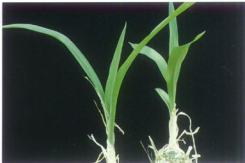
**Titanopsis calcarea**

(Mariloth) Schwantes

MESEMBRYANTHEACEAE

Rosettes 10 cm wide; leaves 2.5 cm long with truncate tips, densely covered with grey-white tubercles; flowers golden yellow to almost orange. Photograph by Alessandro Mosco.

South Africa (Cape Province)

**Trachyandra saltii** (Baker) Oberm.

LILIACEAE

Bulbous plant with basal green leaves.

South Africa

4074



Trachyandra tortilis
(Baker) Oberm.

LILIACEAE

Bulbous plant to 25 cm tall; leaves basal, folded transversely. Photograph by Charles H. Everson, South Africa

4450



Tradescantia navicularis Ortgies

COMMELINACEAE

Stems creeping, rooting and forming mats; leaves 1-3 cm long, canaliculate, green above, purple beneath; flowers magenta or mauve. Plant photographed in habitat by Alessandro Mosco.

Callisia navicularis (Ortgies) D.R.Hunt
Mexico

1205



Tradescantia navicularis Ortgies

COMMELINACEAE

Close-up of flowers.

2705



Tradescantia zebrina Hort. ex Boiss

COMMELINACEAE

Stems creeping, rooting at nodes; leaves to 10 cm long, 1.5-3.5 cm wide, succulent, green or purple, hairy, often with silver stripes; flowers pink or violet-blue.

Tradescantia pendula (Schniz.) D.R.Hunt; *Zebrina pendula* Schniz.
Mexico

2706



Tradescantia zebrina Hort. ex Boiss

COMMELINACEAE

Flower.

3076



Trichocaulon cactiforme N.E.Br.

ASCLEPIADACEAE

Stem sub-cylindrical, 10 cm tall, 5-6 cm thick, tuberculate, grey-green; flowers 1-1.5 cm in diameter, pale yellow spotted with red. Variable species. Photograph by Gaetano Palisano.

South Africa (Cape Province)

**Trichocaulon cactiforme** N.E.Br.

ASCLEPIADACEAE

Close-up of flowers. Photograph by Gaetano Palisano.

**Trichocaulon affinis cactiforme** N.E.Br.

ASCLEPIADACEAE

Stems sub-cylindrical, tuberculate, branched from base; flowers whitish spotted with red. Probably a form of *T. cactiforme* N.E.Br.

South Africa

**Trichocaulon affinis cactiforme** N.E.Br.

ASCLEPIADACEAE

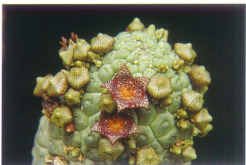
Close-up of flowers.

**Trichocaulon dinterii** A.Berger

ASCLEPIADACEAE

Stems globose, branched from base, 4-6 cm long, 3-5 cm wide, tuberculate, dull green; flowers 7-8 mm in diameter, light coloured at base with red-brown spots which are more dense and confluent on lobes. Plant photographed in habitat by Charles H. Everson.

Namibia

**Trichocaulon dinterii** A.Berger

ASCLEPIADACEAE

Flowering specimen. Photograph by Alberto Marvelli.

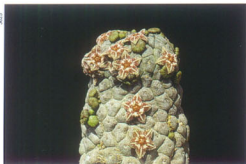
Namibia

**Trichocaulon simile** N.E.Br.

ASCLEPIADACEAE

Stems erect, globose; 4-5 cm tall, 4 cm wide, grey-green, tuberculate; flowers yellowish spotted with red.

South Africa

**Trichocaulon** sp.

ASCLEPIADACEAE

Unidentified species with erect cylindrical stems 15-20 cm tall, 5 cm in diameter, grey-green, tuberculate; flowers whitish marked with purple-brown. It could be a form of *T. perlatum* Dinter. Photograph by Gaetano Palisano.

South Africa

**Trichodiadema intonsum** (Haw.) Schwantes

MESEMBRYANTHEMACEAE

Stems 15-25 cm tall; leaves 1.5 cm long, semi-cylindrical, covered with grey papillae and 8-10 brown bristles at tip; flowers white or pink.

South Africa (Cape Province)

**Tridentea gemmiflora** (Masson) Haw.

ASCLEPIADACEAE

Stems 7-15 cm tall, greyish-green, glabrous; angles obtuse, toothed; flowers 8 cm in diameter, black-brown or violet-brown, lobes mottled with yellow spots at base.

Stapelia gemmiflora Masson; *Tridentea stygia* Haw.

South Africa (Cape Province)

**Tridentea longipes** (C.A.Luckh.) L.C.Leach

ASCLEPIADACEAE

Stems glabrous, much branched, green; angles toothed; flowers light red-brown. Photograph by Charles H. Everson.

South Africa (Cape Province)

**Tylecodon buchholzianus** (Schuldt & PStephan) Toelken

CRASSULACEAE

Shrub with swollen base; branches 30 cm long, leaves usually linear, 0.5-1.5 cm long, 0.2-0.3 cm wide, but very variable in shape and size, dull green with brown stripes;

flowers pink to deep red.

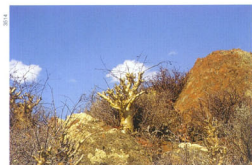
Cetipalon buchholziana Schuldt & PStephan
Namibia, South Africa
(Cape Province)

**Tylecodon ellephiae** vanJaarsv.

CRASSULACEAE

Caudex subterranean, 1-3 cm in diameter, light brown with yellowish-grey peeling flakes; branches grey-green, to 2 cm long; leaves ovate, 2-4 cm long; flowers yellow-green.

South Africa (Cape Province)

**Tylecodon paniculatus** (L.f.) Toelken

CRASSULACEAE

Stem to 1.5 m high, much branched and with yellow peeling bark; leaves 6-12 cm long, 3-10 cm wide, obovate, green to yellowish-green; flowers yellow-orange to red. Plant photographed in habitat.

Tylecodon fuscicollaris Ait.; *C. mollis* Dinter; *C. paniculata* L.f.; *C. taniflora* Bonpl.

Namibia, South Africa (Cape Province)

Tylecodon paniculatus (L.f.) Toelken

CRASSULACEAE

Specimen 25 years old. Photograph by Charles H. Everson.

**Tylecodon paniculatus** (L.f.) Toelken

CRASSULACEAE

Flowers.

**Tylecodon pearsonii** (Schönl.) Toelken

CRASSULACEAE

Stem with swollen base 15 cm high, few branches, with brown peeling bark; leaves linear-lanceolate, 1.5-4 cm long, 0.2-0.4 cm wide, grey-green to greyish-brown; flowers pale brown.

Tylecodon pearsonii Schönl. Namibia, South Africa (Cape Province)

**Tylecodon reticulatus** (L.f.) Toelken

CRASSULACEAE

Stem fleshy, swollen towards base, covered with yellow-brown peeling bark; leaves cylindrical to 5 cm long, greyish-green to yellow-green; flowers yellowish-green.

Tylecodon reticulata L.f. Namibia, South Africa (Cape Province)

**Tylecodon reticulatus** (L.f.) Toelken

CRASSULACEAE

Plant photographed in habitat.

**Tylecodon schaeferianus** (Dinter) Toelken

CRASSULACEAE

Underground tuber with one to several branches to 15 cm long with pale flaking bark; leaves elliptic to obovate 0.8-2 cm long, 0.3-1.5 cm wide, green to pale brown with red stripes; flowers pink-violet rarely white.

Close-up of flowers.

Cotyledon schaeferiana Dinter; *C. sinis-alexandri* Poelln.

Namibia, South Africa (Cape Province)

**Tylecodon scadens** vanjaarsv.

CRASSULACEAE

Small plant with short zig-zag branches and small succulent leaves. South Africa (Cape Province)

**Tylecodon striatus** (Hutchison+) Toelken

CRASSULACEAE

Tuberous base; few branches, erect, to 25 cm long with remains of old leaves attached; leaves linear, 3.5 cm long, 0.2-0.5 cm wide, greyish-green; flowers yellowish-green with red-brown veins. Young specimen.

Cotyledon striata Hutchison
South Africa (Cape Province)**Tylecodon wallichii** (Harv.) Toelken

CRASSULACEAE

Stems erect, to 80 cm high, much branched, covered with elongate phyllopodia; leaves linear 6-12 cm long, grey-green to grey-brown; flowers yellow. Photograph by Charles H. Everson.

Cotyledon wallichii Harv.

South Africa (Cape Province)

**Tylecodon wallichii** (Harv.) Toelken

CRASSULACEAE

Plant photographed in habitat.

**Umbilicus horizontalis** (Guss.) DC.

CRASSULACEAE

Bulbous plant with annual succulent stems up to 30 cm tall; leaves 3-10 cm in diameter, circular with undulate margins, brownish-green; inflorescence horizontal; flowers reddish-greenish. Plant photographed in habitat. Mediterranean regions

**Umbilicus rupestris** (Salisb.) Dandy

CRASSULACEAE

Tuber to 5 cm in diameter; leaves on long petioles, green sometimes lined with reddish, or brown-red in sunny conditions; flowers greenish.

Umbilicus pendulicus DC.

Mediterranean regions

**Uncarina grandidieri** (Baill.) Stapf.

PEDALIACEAE

Tree to 2.5 m tall; leaves 5-7-lobed, pubescent; flowers yellow.

Harpagophytum grandidieri Baill.

Madagascar

**Uncarina rooesliana**
Rauh

PEDALIACEAE

Tree to 2 m tall; caudex thick; leaves to 12 cm long, to 2 cm wide, variable in shape, margins undulate; flowers yellow.

Madagascar

**Veltheimia capensis**
(L.) DC.

LILIACEAE

Bulbs to 13 cm long, ovoid, flattened at base; leaves 30 cm long, 4 cm wide, glaucous-green; flowers white-pink or with red spots. Photograph by Charles H. Everson. South Africa (Cape Province)

**Welwitschia mirabilis** Hook.f.

WELWITSCHIACEAE

Plant with shallow tap-root and many lateral roots just below the soil surface. Each plant has a short, nearly circular trunk, dark grey, fissured. Only two opposite leaves are produced from marginal grooves on the crown, each splitting into many parallel sections, twisting. The leaves continue to grow throughout the life of the plant, and in habitat may reach a length of 4 m and over. Male cones. *Welwitschia binusii* (Hook.f.) Carr. Angola, Namibia

**Welwitschia mirabilis** Hook.f.

WELWITSCHIACEAE

Female cones.



Xerosicyos pubescens Keraudren

CUCURBITACEAE

Caudex hemispherical to 2 m in diameter, covered with silver grey bark; stems thin, pubescent; leaves triangular, green, woolly; flowers inconspicuous.

Madagascar



Yucca aloifolia
L. cv. «Tricolor»

AGAVACEAE

Stems to 8 m tall; leaves 40 cm long, 6 cm wide at base, ending in a pungent tip, green striped yellow or with central white stripe; flowers white.



Yucca aloifolia L. var.
draconis (L.) Engelm.

AGAVACEAE

This variety differs from the type in having larger and more flexible leaves.

Yucca draconis L.
Mexico



Yucca brevifolia
Engelm.

AGAVACEAE

Arborescent plant, to 9 m tall, branching, fissured bark; leaves 40 cm long and 4 cm wide at the base, green to brownish green, yellow-green denticulate margins; inflorescence 50 cm tall; flowers yellow to cream, tinged with green, malodorous. Plant photographed in habitat. USA (California to SW Utah).



Yucca elephantipes A. Regel

AGAVACEAE

Arborescent plant, to 10 m tall, densely branching; leaves stiff, 50-100 cm long; inflorescence to 1 m tall; flowers white.

Yucca guatemalensis Baker
Guatemala, Mexico



Yucca filifera
Chabaud

AGAVACEAE

Arborescent plant, to 10 m tall; leaves 55 cm long, 5 cm wide at base, glaucous; inflorescence to 1.5 m tall, cylindrical; flowers cream-white.

Mexico

***Yucca gloriosa* L.**

AGAVACEAE

Stems to 2.5 m tall, rarely branched; leaves to 60 cm long, 7 cm wide at base, glaucous; inflorescence to 1.5 m tall; flowers creamy-white, sometimes tinged with red or green.

Mexico

***Yucca treuleana* Carr**

AGAVACEAE

Stems to 5 m tall; leaves blue-green, to 110 cm long, 7 cm wide at base; flowers white sometimes tinged with purple.

Mexico, USA (Texas)

***Yucca treuleana* Carr**

AGAVACEAE

Flowers.

***Yucca vomerensis* Spreng.**

AGAVACEAE

Hybrid between *Y. alostóla* L. and *Y. gloriosa* L. with thick leaves; inflorescence to 2 m tall and flowers white tinged with green.

Garden origin

***Zygophyllum fontesii* Webb & Berthel.**

ZYGOPHYLLACEAE

Small shrub, succulent, with woody base, branching; stems 10-60 cm tall, greyish-yellowish to light brown; leaves up to 2.5 cm long, glaucous-green to yellow, sub-cylindrical; flowers white-pinkish. Plant photographed in habitat.

Macaronesia

***Zygophyllum fontesii* Webb & Berthel.**

ZYGOPHYLLACEAE

Flowers.

Macaronesia

CHECKLIST OF ALTERNATIVE NAMES

The following list contains some of the synonyms in common use.
This is a partial listing, and several obsolete names that are seldom used have been omitted.

| Genus | Species | ... See | Genus | Species | ... See |
|---------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Adromischus</i> | <i>cuneatus</i> <i>estivus</i> <i>halesowensis</i> | <i>Adromischus cooperi</i> <i>Adromischus cooperi</i> <i>Adromischus cooperi</i> | <i>Asclepias</i> | <i>carnosa</i> | <i>Hoya carnosa</i> |
| <i>Adromischus</i> | <i>juttiae</i> | <i>Adromischus schultianus</i> ssp. <i>juttiae</i> | <i>Beurcarnea</i> | <i>recurvata</i> | <i>Nolina recurvata</i> |
| <i>Aeonium</i> | <i>bertoletianum</i> <i>caespitosum</i> <i>macrolepum</i> | <i>Aeonium tabulaeforme</i> <i>Aeonium simsii</i> <i>Aeonium tabulaeforme</i> | <i>Bryophyllum</i> | <i>calycinum</i> | <i>Kalanchoe pinnata</i> |
| <i>Agave</i> | <i>colymus</i> <i>engelmannii</i> <i>filamentosa</i> <i>mitis</i> | <i>Agave potatorum</i> <i>Agave polyacantha</i> <i>Agave filifera</i> <i>Agave celsii</i> var. <i>albicans</i> | <i>Callisia</i> | <i>navicularis</i> | <i>Tradescantia navicularis</i> |
| | <i>rigida</i> var. <i>elongata</i> <i>saundersii</i> <i>verschaffeltii</i> | <i>Agave fourcroydes</i> <i>Agave potatorum</i> <i>Agave potatorum</i> | <i>Caralluma</i> | <i>lutea</i> <i>melanantha</i> <i>vaga</i> | <i>Orbeopsis lutea</i> <i>Orbeopsis melanantha</i> <i>Orbeopsis lutea</i> ssp. <i>vaga</i> |
| <i>Aloe</i> | <i>albo-cincta</i> <i>bainesii</i> <i>bayfieldii</i> | <i>Aloe striata</i> <i>Aloe barberae</i> <i>Gasterhuaworthia bayfieldii</i> X | <i>Cephalophyllum</i> | <i>cupreum</i> | <i>Jordaaniella cupriata</i> |
| | <i>davyana</i> | <i>Aloe greatheadii</i> var. <i>davyana</i> | <i>Conophytum</i> | <i>calitzdorpense</i> <i>helenae</i> <i>wiggettiae</i> | <i>Conophytum truncatum</i> var. <i>wiggettiae</i> <i>Conophytum tantillum</i> ssp. <i>helenae</i> <i>Conophytum truncatum</i> var. <i>wiggettiae</i> |
| | <i>gariusana</i> <i>hanburyana</i> <i>hodocincta</i> <i>paniculata</i> <i>punctata</i> | <i>Aloe gariensis</i> <i>Aloe striata</i> <i>Aloe striata</i> <i>Aloe striata</i> <i>Aloe variegata</i> | <i>Cotyledon</i> | <i>ausana</i> <i>buchholziana</i> <i>elata</i> <i>fascicularis</i> <i>mollis</i> <i>paniculata</i> <i>pannosa</i> <i>pearsonii</i> <i>ramosa</i> <i>reticulata</i> <i>spuria</i> | <i>Cotyledon orbiculata</i> <i>Tylecodon buchholzianus</i> <i>Cotyledon orbiculata</i> <i>Tylecodon paniculatus</i> <i>Tylecodon paniculatus</i> <i>Tylecodon paniculatus</i> <i>Tylecodon paniculatus</i> <i>Kalanchoe eriophylla</i> <i>Tylecodon pearsonii</i> <i>Cotyledon orbiculata</i> <i>Tylecodon reticulatus</i> <i>Cotyledon orbiculata</i> var. <i>spuria</i> <i>Tylecodon striatus</i> <i>Tylecodon paniculatus</i> <i>Cotyledon campanulata</i> <i>Tylecodon wallichii</i> <i>Tylecodon paniculatus</i> <i>Tylecodon schaeferianus</i> <i>Tylecodon schaeferianus</i> |
| <i>Aloinopsis</i> | <i>albipuncta</i> <i>transvaalensis</i> | <i>Robbia albipuncta</i> <i>Nananthus transvaalensis</i> | | <i>striata</i> <i>tardiflora</i> <i>teretifolia</i> <i>wallichii</i> <i>schaeferiana</i> <i>sinis-alexandri</i> | |
| <i>Anacamperos</i> | <i>alstonii</i> <i>dinteri</i> <i>meyeri</i> | <i>Avonia quinaria</i> ssp. <i>alstonii</i> <i>Avonia dinteri</i> <i>Avonia papyracea</i> ssp. <i>namaensis</i> | <i>Crassula</i> | <i>aloides</i> <i>anthurus</i> | <i>Crassula hemisphaerica</i> <i>Crassula perforata</i> |
| | <i>papyracea</i> <i>recurvata</i> <i>rhodesica</i> <i>fissoides</i> | <i>Avonia papyracea</i> <i>Avonia recurvata</i> <i>Avonia rhodesica</i> <i>Gibbaeum fissoides</i> | | | |
| <i>Antegibbaeum</i> | <i>fissoides</i> | | | | |

| Genus | Species | ... See | Genus | Species | ... See |
|-------------------|-------------------------|---------------------------------|--------------------------------|----------------------------------|--------------------------------|
| Crassula | <i>bakeri</i> | <i>Crassula grisea</i> | Gasteria | <i>poellnitziana</i> | <i>Gasteria pulchra</i> |
| | <i>bolusii</i> | <i>Crassula cooperi</i> | | <i>verrucosa</i> | <i>Gasteria carinata</i> |
| | <i>conjuncta</i> | <i>Crassula perforata</i> | Guillauminia | <i>albiflora</i> | <i>Aloe albiflora</i> |
| | <i>decipiens</i> | <i>Crassula tecta</i> | | Haemanthus | <i>nelsonii</i> |
| | <i>hystrix</i> | <i>Crassula hirtipes</i> | | | ssp. <i>hirsutus</i> |
| | <i>lucens</i> | <i>Crassula portulacca</i> | Haworthia | <i>caespitosa</i> | <i>Haworthia retusa</i> |
| | <i>monticola</i> | <i>Crassula rupestris</i> | | <i>concaea</i> | <i>Haworthia cymbiformis</i> |
| | <i>nitida</i> | <i>Crassula portulacca</i> | | <i>concinna</i> | <i>Haworthia viscosa</i> |
| | <i>obvallata</i> | <i>Crassula albiflora</i> | | <i>correcta</i> | <i>Haworthia emelyae</i> |
| | <i>perfilata</i> | <i>Crassula perforata</i> | | <i>eilyae</i> | <i>Haworthia glauca</i> |
| | Duvalia | <i>compacta</i> | <i>Huernia compacta</i> | | var. <i>herrei</i> |
| <i>procumbens</i> | | <i>Huernia procumbens</i> | <i>emelyae</i> | | |
| Echeveria | <i>akantiophylla</i> | <i>Echeveria subalpina</i> | var. <i>comptoniana</i> | <i>Haworthia comptoniana</i> | |
| | <i>elegans</i> | <i>Echeveria harnsii</i> | <i>graminifolia</i> | <i>Haworthia blackburniae</i> | |
| | <i>palmeri</i> | <i>Echeveria subrigida</i> | | var. <i>graminifolia</i> | |
| | <i>peacockii</i> | <i>Echeveria subsessilis</i> | <i>reticulata</i> | <i>Haworthia guttata</i> | |
| | <i>pusilla</i> | <i>Echeveria amena</i> | <i>habdonadis</i> | | |
| | <i>sanguinea</i> | <i>Echeveria atropurpurea</i> | var. <i>inconfuens</i> | <i>Haworthia mucronata</i> | |
| | <i>sangusta</i> | <i>Echeveria subrigida</i> | | var. <i>inconfuens</i> | |
| | <i>schaffneri</i> | <i>Echeveria paniculata</i> | <i>helmae</i> | <i>Haworthia mucronata</i> | |
| | <i>scopulorum</i> | <i>Echeveria obtusifolia</i> | <i>herrei</i> | <i>Haworthia glauca</i> | |
| | Echinothammus | <i>pectuelii</i> | <i>Adenia pectuelii</i> | <i>inconfuens</i> | <i>Haworthia mucronata</i> |
| | | | | var. <i>inconfuens</i> | |
| Euphorbia | <i>antankara</i> | <i>Euphorbia pachypodioides</i> | <i>lepida</i> | <i>Haworthia cymbiformis</i> | |
| | <i>boyeri</i> | <i>Euphorbia milii</i> | <i>planifolia</i> | <i>Haworthia cymbiformis</i> | |
| | <i>breviarticulata</i> | <i>Euphorbia grandicornis</i> | <i>margariifera</i> | <i>Haworthia pumila</i> | |
| | <i>decariana</i> | <i>Euphorbia hedyotoides</i> | <i>maxima</i> | <i>Haworthia pumila</i> | |
| | <i>elliptica</i> | <i>Euphorbia silenifolia</i> | <i>mcmurtryi</i> | <i>Haworthia koelmaniorum</i> | |
| | <i>emengona</i> | <i>Euphorbia aggregata</i> | <i>otzenii</i> | <i>Haworthia multica</i> | |
| | <i>glomerata</i> | <i>Euphorbia globosa</i> | <i>rycroftiana</i> | <i>Haworthia mucronata</i> | |
| | <i>milii</i> | | | var. <i>rycroftiana</i> | |
| | var. <i>bosseri</i> | <i>Euphorbia neobosseri</i> | <i>schmidtiana</i> | <i>Haworthia nigra</i> | |
| | <i>regis-jubae</i> | <i>Euphorbia obtusifolia</i> | <i>turgida</i> | <i>Haworthia retusa</i> | |
| | <i>rhipsaloides</i> | <i>Euphorbia tirucalli</i> | <i>unicolor</i> | | |
| | <i>rubella</i> | <i>Euphorbia brunellii</i> | var. <i>helmae</i> | <i>Haworthia mucronata</i> | |
| | var. <i>brunellii</i> | <i>Euphorbia brunellii</i> | | var. <i>helmae</i> | |
| | <i>splendens</i> | | <i>willowmorensis</i> | <i>Haworthia mirabilis</i> | |
| | var. <i>vulcanii</i> | <i>Euphorbia milii</i> | <i>woolleyi</i> | <i>Haworthia venosa woolleyi</i> | |
| | | var. <i>vulcani</i> | | | |
| | <i>viminalis</i> | <i>Euphorbia tirucalli</i> | | | |
| Furcraea | <i>lindenii</i> | <i>Furcraea selloa</i> | Hoya | <i>coriacea</i> | <i>Hoya multiflora</i> |
| | | var. <i>marginata</i> | Huernia | <i>appendiculata</i> | <i>Huernia hystrix</i> |
| Gasteria | <i>nigricans</i> | <i>Gasteria brachyphylla</i> | | <i>bicampanulata</i> | <i>Huernia kirkii</i> |
| | <i>angustianum</i> | <i>Gasteria brachyphylla</i> | | <i>cellata</i> | <i>Huernia guttata</i> |
| | <i>decipiens</i> | <i>Gasteria nitida</i> | | <i>echidnopsioides</i> | <i>Huernia echidnopsioides</i> |
| | <i>ernsti-ruschii</i> | <i>Gasteria pillansii</i> | | <i>guttata sensu</i> | <i>Huernia plowesi</i> |
| | | var. <i>ernsti-ruschii</i> | <i>olentiginosa</i> | <i>Huernia guttata</i> | |
| | <i>Gasteria bicolor</i> | <i>pillansii</i> ssp. | <i>Huernia echidnopsioides</i> | | |
| | | | <i>ldria</i> | <i>columnaris</i> | <i>Fouquieria columnaris</i> |

| Genus | Species | ... See | Genus | Species | ... See | |
|-------------------|------------------------------|----------------------------------|---------------------------|-----------------------------|--------------------------------|------------------------------|
| Kalanchoe | <i>diversa</i> | <i>Kalanchoe lanceolata</i> | Sedum | <i>galioides</i> | <i>Sedum cepaea</i> | |
| | <i>globulifera</i> | | | <i>glanduliferum</i> | <i>Sedum dasyphyllum</i> | |
| | var. <i>coccinea</i> | <i>Kalanchoe blossfeldiana</i> | | <i>glaucum</i> | <i>Sedum dasyphyllum</i> | |
| | <i>grandiflora</i> | <i>Kalanchoe marmorata</i> | | <i>hungaricum</i> | <i>Sedum hispanicum</i> | |
| | <i>heterophylla</i> | <i>Kalanchoe lanceolata</i> | | <i>paniculatum</i> | <i>Sedum cepaea</i> | |
| | <i>Kalanchoe laciniata</i> | | <i>puberulum</i> | <i>Sedum hispanicum</i> | | |
| | <i>Kalanchoe laciniata</i> | | | | | |
| Kleina | <i>repens</i> | <i>Senecio serpens</i> | Sempervivella | <i>acuminata</i> | <i>Rosularia alpestris</i> | |
| | <i>anteuphorbium</i> | <i>Senecio anteuphorbium</i> | | <i>alba</i> | <i>Rosularia sedoides</i> | |
| | <i>crassulaefolia</i> | <i>Senecio crassulifolius</i> | | Senecio | <i>crassicaulis</i> | <i>Senecio ficoides</i> |
| | <i>ficoides</i> | <i>Senecio ficoides</i> | | | <i>nerifolius</i> | <i>Senecio kleinia</i> |
| | <i>nerifolia</i> | <i>Senecio kleinia</i> | | | <i>pteroneuros</i> | <i>Senecio anteuphorbium</i> |
| <i>pteroneura</i> | <i>Senecio anteuphorbium</i> | <i>repens</i> | <i>Senecio serpens</i> | | | |
| | | <i>subulatifolius</i> | <i>Senecio pectinatus</i> | | | |
| | | | <i>subulatus</i> | <i>Senecio pectinatus</i> | | |
| | | | <i>succulentus</i> | <i>Senecio serpens</i> | | |
| Klinja | <i>namaquensis</i> | <i>Gethyllis namaquensis</i> | Stapelia | <i>ambigua</i> | <i>Stapelia grandiflora</i> | |
| Lithops | <i>translucens</i> | <i>Lithops herrei</i> | | <i>ciliata</i> | <i>Diplocyathia ciliata</i> | |
| | | | | <i>desmetiana</i> | <i>Stapelia grandiflora</i> | |
| Monanthes | <i>dasyphylla</i> | <i>Monanthes minima</i> | | <i>flavirostris</i> | <i>Stapelia grandiflora</i> | |
| | <i>niphophila</i> | <i>Monanthes brachycaulos</i> | | <i>furcata</i> | <i>Orbeopsis melanantha</i> | |
| | <i>praegeri</i> | <i>Monanthes brachycaulos</i> | <i>gemmaflora</i> | <i>Tridentea gemmiflora</i> | | |
| | <i>silensis</i> | <i>Monanthes pallens</i> | <i>marlothii</i> | <i>Stapelia gigantea</i> | | |
| Nananthus | <i>malherbei</i> | <i>Aloinopsis malherbei</i> | <i>nobilis</i> | <i>Stapelia gigantea</i> | | |
| | <i>orpenii</i> | <i>Aloinopsis orpenii</i> | <i>passerini</i> | <i>Stapelia mutabilis</i> | | |
| Nycteranthus | <i>viridiflorus</i> | <i>Sphalmanthus viridiflorus</i> | <i>picta</i> | <i>Stapelia variegata</i> | | |
| Orbea | <i>curtisii</i> | <i>Stapelia variegata</i> | | var. <i>picta</i> | | |
| | | var. <i>curtisii</i> | <i>pulvinata</i> | <i>Stapelia hirsuta</i> | | |
| | <i>inodora</i> | <i>Stapelia variegata</i> | <i>rugosa</i> | <i>Stapelia variegata</i> | | |
| | | var. <i>curtisii</i> | | var. <i>rugosa</i> | | |
| | <i>mutabilis</i> | <i>Stapelia mutabilis</i> | <i>spectabilis</i> | <i>Stapelia grandiflora</i> | | |
| | <i>Stapelia variegata</i> | <i>reclinata</i> | <i>Durvalia reclinata</i> | | | |
| | var. <i>picta</i> | | | | | |
| | <i>prognatha</i> | <i>Stapelia prognatha</i> | Tacitus | <i>bellus</i> | <i>Graptopetalum bellum</i> | |
| | <i>rugosa</i> | <i>Stapelia variegata</i> | | var. <i>rugosa</i> | | |
| | | var. <i>rugosa</i> | Testudinaria | <i>elephantipes</i> | <i>Dioscorea elephantipes</i> | |
| Othonna | <i>crassifolia</i> | <i>Othonna capensis</i> | Trichocaulon | <i>alstonii</i> | <i>Hoodia alstonii</i> | |
| | <i>filicaulis</i> | <i>Othonna capensis</i> | | Tridentea | <i>rugosa</i> | <i>Stapelia variegata</i> |
| | <i>lamulosa</i> | <i>Othonna retrofracta</i> | | | | var. <i>rugosa</i> |
| | <i>litoralis</i> | <i>Othonna retrofracta</i> | | | <i>stygia</i> | <i>Tridentea gemmiflora</i> |
| | <i>pinnatilobata</i> | <i>Othonna retrofracta</i> | | | | |
| <i>surculosa</i> | <i>Othonna retrofracta</i> | | | | | |
| Pleiospilos | <i>pedunculatus</i> | <i>Pleiospilos nelii</i> | Tromotriche | <i>ciliata</i> | <i>Diplocyathia ciliata</i> | |
| | <i>prismaticus</i> | <i>Tanquana prismatica</i> | Welwitschia | <i>bainesii</i> | <i>Welwitschia mirabilis</i> | |
| Pseudolithos | <i>sphaericus</i> | <i>Pseudolithos migurtinus</i> | Whitesloanea | <i>migurtina</i> | <i>Pseudolithos migurtinus</i> | |
| Rochea | <i>albiflora</i> | <i>Crassula albiflora</i> | Yucca | <i>draconis</i> | <i>Yucca aloifolia</i> | |
| | <i>coccinea</i> | <i>Crassula coccinea</i> | | <i>guatemalensis</i> | var. <i>draconis</i> | |
| Sedum | <i>aristatum</i> | <i>Sedum hispanicum</i> | | | <i>Yucca elephantipes</i> | |
| | <i>burnatii</i> | <i>Sedum dasyphyllum</i> | Zebrina | <i>pendula</i> | <i>Tradescantia pendula</i> | |

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