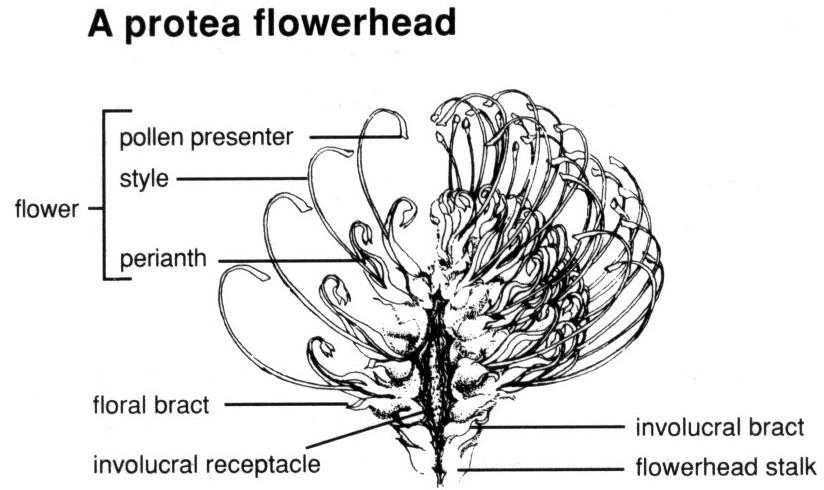
MiraCosta College

Horticulture Department

Protea Garden

The Protea Garden was planted and opened 5/11/2015. Protea Garden Intern’s Brandon Clarkson and Ben Gill were instrumental in the preparations, designs, donations, and installation of the Protea Garden during Spring 2015 Semester. The California Protea Association was also instrumental in supporting and donating to the new garden.

Flower Structure



Cultivation

Drainage – MORE IS BETTER

pH – ACID IS BETTER

Nutrition – SECONDARY & MICRONUTRIENTS

Pruning – PRUNE, PRUNE, PRUNE

Mulch – MULCH, MULCH, MULCH!!!

Temperatures - Requirements vary:

Generally warm days & cool night’s best

Only a few selections survive below 20 degrees Fahrenheit

Container Cultivation

Create Drainage using Perlite & Scoria

Use Stable Potting Mix

Mineral soils

Long Term Organic Components

Peat & Bark

pH - 4.5 to 5.5

Add Sulfur to lower pH

Nutrition N,K no P! Secondary Nutrients & Micronutrients are most important

Future Trends

Selections

Grafting

How much Lime (calcium carbonate & bicarbonate) is there in addition to actual pH of the soil?

Usually some Lime is present, so the acid amendment, Sulfur, must: overcome the Lime in the soil to lower the pH and act on the soil to lower the pH

Without Lime it takes the following, in pounds of Soil Sulfur, to effect these changes in a loam soil to a depth of 12 inches:

pH Soil Sulfur

8.5>6.5 11.5 #s/100 ft2

8.0>6.5 7.0 #s/100 ft2

7.5>6.5 3.7 #s/100 ft2

7.0>6.5 .7 #s/100 ft2

Gypsum should be avoided unless Calcium is not present. Calcium along with Phosphorus can be detrimental at even ‘normal’ levels to proteas.

Protea Nutrition

•Proteas feed at 1/8 - 1/4 the rates of general ornamentals.

•Magnesium, Iron and Sulfur are the key amendments for our soils.

* Sulfur, Magnesium & Iron should be present at moderately high levels for this group of plants & exceed general plant nutrition practices
* Iron and Magnesium can be toxic so do maintain moderation.
* Magnesium is important, as important as Iron. Use Epsom salts(magnesium sulfate)to amend soils
* Sulfur may take six months to alter the soil pH - both Iron Sulfate & Magnesium Sulfate can quickly drop pH.
* Iron sulfate is highly recommended.

•Primary Plant Nutrients are usually present in adequate amounts

•Micronutrients may be unavailable to proteas in non-acid soils, so add them

•Gypsum should be avoided unless Calcium is not present.

•Calcium along with Phosphorus can be detrimental at even 'normal' soil levels to Protea

* Soil testing and monitor pH, Total Alkalinity, Lime & Sulfur

Fertilizer is fine for Proteas. Provided that it is acidic (not alkaline - so ammonium based, not nitrates or nitrites), and most importantly provided it does not contain ANY potassium or phosphorous. Bone meal is instant death. Manure is slow death. Only acid mulches should be used, but with care as they introduce pathogens. Nutrient uptake is via specialized feeding roots (proteoid roots) which are super-efficient at taking up trace amounts of nutrients. Over fertilizing results in lethal quantities of nutrients being absorbed. Plants to be fertilized (e.g. for commercial picking of large quantities of flower heads) should be regularly fertilized from planting to ensure that minimum amounts of feeding roots are produced.

Protea List

Genera and major desirable characteristics

* Adenanthos
* Banksia – Exotic flowers and foliage
* Grevillea
* Hakea
* Isopogon
* Leucadendron – Foliage form and color (i.e. bracts)
* Leucospermum – Pincushion flowers
* Protea – Exotic flowers
* Stenocarpus

Detailed Descriptions

Banksia species and cultivars

Shrubs, Trees - Phytophthora Resistant, Lignotuberous

pH Tolerance: 8-5.0

Nutrition: Forgiving – Moderate Feeder

Drainage: Heavy Loam or Better

Prune: To Shape or Ground In Late Winter

Climate: Frost to Low 20’s F., Hot Summers w/ Cool Nights

Banksia species and cultivars

pH Tolerance: 7.5-5.0

Nutrition: Forgiving – Light Feeder

Drainage: Mounded Loam, Clay Loam Slope or Better

Prune: To Shape or >1/2 Size In Winter

Climate: Frost to Mid 20’s F., Warm Summers w/ Cool Nights

Leucadendron argenteum

Silver Foliage, Silver Tree - Beautiful, Difficult Can Be Short Lived (7-10 years)

pH Tolerance: 6.3 - 5.0

Nutrition: Light Feeder

Drainage: Cool, Moist, Well Drained

Prune: To Shape or >1/2 Size In Late Winter

Climate: Light Frosts, Cool Summers, North Slopes & Coastal

Leucadendron species and cultivars

pH Tolerance: 7.0-5.0

Nutrition: Forgiving – Light Feeder

Drainage: Mounded Sandy Loam or Better

Prune: To Shape or >1/2 Size In Late Winter

Climate: Frosts to Mid 20’s F., Warm Summers w/ Cool Nights

Protea species and cultivars

pH Tolerance: 7.5-5.0

Nutrition: Forgiving – Light Feeder

Drainage: Mounded Loam, Clay Slopes or Better

Prune: To Shape or >1/2 Size In Late Winter

Climate: Frost to Mid 20’s F., Hot Summers OK w/ Cool Nights

Protea Links

* <http://californiaprotea.org/>
* <http://www.proteaatlas.org.za/matching.htm>

Protea Classifications

Kingdom: **Plantae**

Class: **Angiospermae** (Angiosperms: Flowering Plants – all Plants bearing flowers and covered seeds)

Subclass: **Dicotyledoneae** (Dicots, all Flowering Plants with seeds giving rise to two seed leaves)

Superorder: **Rosidae** (Rose Superorder: includes Rose, Pea, Gum, Holly, Spurge, Vine, Citrus, Geranium and Carrot Orders and Families)

Order: **Proteales** (containing Oleaster, Buckthorn and *Protea* Families, but more recently considered to be most closely related to other Families)

Family: **Proteaceae** (*Protea* Family)

Subfamily: **Proteoideae** (Proteoid Subfamily – with one flower per floral bract, also Grevilleoideae Subfamily – Banksias and Grevilleas – with two flowers per floral bract)

Tribe: **Proteae** (All African proteas, except *Brabejum* – this delimitation of **13 genera +** is probably incorrect, and some Australian genera probably belong here)

Subtribe: **Proteainae** (Hairy seeded proteas: *Protea* and *Faurea*, *vs* Featerbush and Pincushion Subtribes)

Genus: ***Protea*** (Sugarbushes, with about **120 species**)

Species: ***cynaroides*** (King Protea, with three distinct subtypes and many variants, however, no formal classification below species has been recognized.

**Subspecies: (3 informal types** are recognized, these are unnamed)

Varieties: (up to **81 varieties** were recognized by Marie Vogts, but these have not been formalized)

Forms: (recognizing forms has not been attempted, **several hundred** are possible and this is not considered feasible)

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Faurea*** | In honour of WC Faure (1822-1844), a young south African botanist who was killed in India |
| *forficuliflora* | scissor-shaped-flower |
| |  |  | | --- | --- | |  | *racemosa* | | racemous (inflorescences) |
| *galpinii* | after EE Galpin (1858-1941) |
| *macnaughtonii* | after CB Macnaughton |
| |  |  | | --- | --- | |  | *natalensis* | | from Natal (location) |
| *saligna* | like a *Salix* (willow) (leaves) |
| *rochetiana* |  |
| |  |  | | --- | --- | |  | *speciosa* | | ‘handsome’ (inflorescences) |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Aulax*** | ‘furrow’ (leaves) |
| *cancellata* | ‘latticed’ (surface of fruit) |
| |  |  | | --- | --- | |  | *pinifolia* | | ‘pine-leaf’ |
| *pallasia* | after D Pallas (1768-1818) |
| *umbellata* | ‘umbel-liken florescence' |
| |  |  | | --- | --- | |  | *cneorifolia* | | ‘Cneorum (Spurge) - leaf’ |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Hakea*** | after Baron CL von Hake (1745 - 1818), patron of botany |
| *drupacea* | bearing a drupe (seedhead) |
| |  |  | | --- | --- | |  | *suaveolens* | | sweet - smelling (flowers) |
| *gibbosa* | hunched (follicle) |
| *salicifolia* | willow - leaf |
| |  |  | | --- | --- | |  | *saligna* | | willow - like (leaves) |
| *sericea* | silky (leaves) |
| |  |  | | --- | --- | |  | *acicularis* | | awl - like (leaves) |
| |  |  | | --- | --- | |  | *tenuifolia* | | narrow - leaf |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Leucadendron*** | white tree - after the Silver Tree |
| *album* | ‘white’ (leaves) |
| |  |  | | --- | --- | |  | *proteoides* | | ‘Protea - like’ (inflor.) |
| *arcuatum* | ‘arched’ - florets |
| |  |  | | --- | --- | |  | *crassulaefolia* | | ‘Crassula - leaf’ |
| *argenteum* | ‘silver’ (leaves) |
| *barkerae* | after WF Barker (12007 -) |
| *bonum* | ‘a good thing’ |
| *brunioides* | ‘little *Brunia’* (leaves) |
| |  |  | | --- | --- | |  | fusciflora | | ‘grey - plant’ |
| |  |  | | --- | --- | |  | tortum | | ‘twisting and turning’ (stems) |
| *burchellii* | after WJ Burchell (1781 - 1863) |
| *cadens* | ‘falling’ (habit) |
| *chamelaea* | creeping’ (habit) |
| *cinereum* | ‘ash-coloured’ (leaves) |
| *comosum* | ‘crowned’ |
| |  |  | | --- | --- | |  | *deasii* | | after Deas |
| *concavum* | ‘hollow’ (perianth) |
| *conicum* | ‘cone-shaped’ (cones) |
| *coniferum* | ‘cone-bearing’ |
| |  |  | | --- | --- | |  | *sabulosum* | | ‘from the sands’ |
| *cordatum* | ‘heart-shaped’ (cones) |
| |  |  | | --- | --- | |  | *humifusum* | | ‘trailing’ (habit) |
| *coriaceum* | ‘like leather’ (leaves) |
| *corymbosum* | ‘rounded, flat-topped’ (inflor.) |
| *cryptocephalum* | hidden-head’ |
| *daphnoides* | ‘laurel (*Daphne)*-like’ (leaves) |
| *diemontianum* | in honour of M Diemont |
| *discolor* | ‘two colours’ (involucral leaves) |
| *dregei* | after JF Drege (1794-1881) |
| |  |  | | --- | --- | |  | *swartbergense* | | ‘from Swartberg’ |
| *dubium* | ‘doubt’ (a valid species?) |
| *elimense* | ‘from Elim’ |
| *ericifolium* | ‘ericoid-leaf’ |
| |  |  | | --- | --- | |  | *uniflorum* | | ‘one-flower’ (inflor.) |
| *eucalyptifolium* | ‘gum (*Eucalyptus)-*leaf’ |
| |  |  | | --- | --- | |  | *eriocladum* | | ‘woolly-shoot’ |
| |  |  | | --- | --- | |  | *salignum* | | ‘willow (*Salix)*-like’ (leaves) |
| *flexuosum* | ‘full of bends’ (stems) |
| *floridum* | ‘bearing many flowers’ |
| *foedum* | ‘smelling’-inflor.s) |
| *galpinii* | after EE Galpin (1858-1941) |
| *gandogeri* | after M Gandoger (1850-1926) |
| |  |  | | --- | --- | |  | *decorum* | | ‘decorative’ |
| |  |  | | --- | --- | |  | *guthrieae* | | after FA Guthrie (1831-1899) |
| *glaberrimum* | ‘totally hairless’ (leaves) |
| *globosum* | ‘round’ (cones) |
| |  |  | | --- | --- | |  | *grandiflorum* | | ‘large / noble-flower’ |
| *gydoense* | ‘from the Gydo’ |
| *lanigerium* | ‘wool-bearing’ (leaves) |
| |  |  | | --- | --- | |  | aemulum | | 'splendid rival’ |
| *laureolum* | ‘like a laural’ (leaves) |
| |  |  | | --- | --- | |  | *decorum* | | ‘decorative’ |
| *laxum* | ‘spread out’ (branches) |
| *levisanus* | after G. Lewis |
| *linifolium* | ‘flax-leaf’ |
| |  |  | | --- | --- | |  | *longicaule* | | ‘long-branched’ |
| |  |  | | --- | --- | |  | *tortum* | | ‘twisting & turning’ (stems) |
| *loeriense* | ‘from Loerie’ |
| *loranthifolium* | ‘mistletoe *(Loranthus)-*leaf’ |
| |  |  | | --- | --- | |  | *pearsonii* | | after HW Pearson (1870-1916) |
| |  |  | | --- | --- | |  | *pseudospathulatum* | | ‘false-spoon’ (leaf) |
| *macowanii* | after P MacOwan (1830-12009) |
| *meridianum* | ‘southern’ (locality at Agulhas) |
| *meyerianum* | after EHF Meyer (1791-1858) |
| *microcephalum* | ‘small-head’ (cones) |
| |  |  | | --- | --- | |  | *decorum* | | ‘decorative’ |
| |  |  | | --- | --- | |  | *squarrosum* | | ‘rough with scales’ (seeds) |
| |  |  | | --- | --- | |  | *stokoei* | | after TP Stokoe (1868-1959) |
| *modestum* | ‘shy’ (small stature) |
| *muirii* | after J Muir (1874-1947) |
| *nervosum* | ‘veined’ (leaves) |
| *nitidum* | ‘shiny’ (leaves) |
| |  |  | | --- | --- | |  | *schinzianum* | | after H Schinz (1858-1941) |
| |  |  | | --- | --- | |  | *schlechteri* | | after FR Schlechter (1872-125) |
| *nobile* | ‘splendid’ |
| *olens* | ‘smelling’ |
| *orientale* | ‘of the east’ |
| *platyspermum* | ‘flat-seed’ |
| |  |  | | --- | --- | |  | *comosum* | | ‘crowned’ (cones) |
| *procerum* | ‘very tall’ (habit) |
| |  |  | | --- | --- | |  | *concinnum* | | ‘elegant’ |
| *pubescens* | ‘soft, downy hair’ (leaves) |
| |  |  | | --- | --- | |  | *sericocephalum* | | ‘silky down-head’ |
| |  |  | | --- | --- | |  | *pillansii* | | after NS Pillans (1884-1964) |
| *pubibracteolatum* | ‘downy-haired bracts’ |
| *radiatum* | ‘radiating (branches) |
| *remotum* | ‘far away’ (from Cape Town) |
| *roodii* | after PB Rood (1861-1946) |
| *rourkii* | after JP Rourke (1942-) |
| *rubrum* | ‘red’ (incorrectly to purple bracts) |
| |  |  | | --- | --- | |  | *parviflorum* | | ‘few flowered’ (inflor.) |
| |  |  | | --- | --- | |  | *plumosum* | | ‘feathered’ (cones) |
| *salicifolium* | ‘willow (*Salix) -*leaf’ |
| |  |  | | --- | --- | |  | *strictum* | | ‘constant’ (lacking variation) |
| *salignum* | ‘willow (*Salix)* -like’ (leaves) |
| |  |  | | --- | --- | |  | *pallens* | | ‘pale’ (involucral leaves) |
| *sessile* | ‘without a stalk’ (inflor.) |
| |  |  | | --- | --- | |  | *humifusum* | | ‘ground-stem’ (habit) |
| *sheilae* | after Sheila (wife of I Williams) |
| *singulare* | ‘unique’ |
| *sorocephalodes* | ‘resembling *Sorocephalus’* |
| *spirale* | ‘spiral’ (cones) |
| *spissifolium* | ‘closely packed leaves’ |
| |  |  | | --- | --- | |  | *adscendens* | | ‘ascending’ (habit) |
| |  |  | | --- | --- | |  | *glabrum* | | ‘hairless’ (leaves) |
| |  |  | | --- | --- | |  | *gnidioides* | | ‘resembling a *Gnidia’* |
| |  |  | | --- | --- | |  | *minus* | | ‘small’ (habit) |
| |  |  | | --- | --- | |  | *natalense* | | ‘from Natal’ |
| |  |  | | --- | --- | |  | *philippsii* | | after EP Phillips (1884-1967) |
| |  |  | | --- | --- | |  | *riparium* | | ‘of the river bank’ |
| |  |  | | --- | --- | |  | *virgatum* | | ‘twiggy’ |
| *stellare* | ‘star-like’ (involucral leaves) |
| |  |  | | --- | --- | |  | *empetrifolium* | | ‘crowberry (*Empetrium) -*leaf’ |
| *stelligerum* | ‘bearing stars’ (inflor.) |
| *strobilinum* | ‘cone’ |
| |  |  | | --- | --- | |  | *saxatile* | | ‘of rocks’ |
| *teretifolium* | ‘needle-leaf’ |
| |  |  | | --- | --- | |  | *abietinum* | | ‘like a fir tree (*Abies)* ‘ (leaves) |
| *thymifolium* | ‘thyme-leaf’ |
| *tinctum* | ‘dyed’ (involucral leaves) |
| *tradouwense* | ‘of the tradouw region’ |
| *uliginosum* | ‘growing in swampy places’ |
| *verticillatum* | ‘whorled’ (inflor.) |
| *xanthoconus* | ‘yellow-coned’ |
| |  |  | | --- | --- | |  | *uliginosum* | | ‘growing in swampy places’ |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Vexatorella*** | little trouble-maker (it shook generic concepts in South African Proteaceae) |
| *alpina* | of mountain districts |
| |  |  | | --- | --- | |  | *cartilagineum* | | like cartilage (invol.bracts) |
| *amoena* | pleasant (scent) |
| *latebrosa* | broad-shoot (stems) |
| *obtusata* | blunt (leaves) |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Diastella*** | separate (free perianth lobes) |
| *buekii* | after HW Buek (1796-1879) |
| *divaricata* | branched (habit) |
| |  |  | | --- | --- | |  | *serpyllifolia* | | *‘Serpyllus’-*leaf |
| *fraterna* | brother (to *D. divaricata)* |
| *myrtifolia* | myrtle-leaf |
| *parilis* | equal (similar to other spp) |
| *proteoides* | *Protea-like (inflor.)* |
| |  |  | | --- | --- | |  | *ericaefolia* | | *Erica-*leaf |
| *thymelaeoides* | resembling *Thymelea (*habit) |
| |  |  | | --- | --- | |  | *bryiflora* | | moss-flower (inflor.) |
| |  |  | | --- | --- | |  | *concavus* | | concave (leaves) |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Orothamnus*** | mountain branch |
| *zeyheri* | after C Zeyher (1799-1858) |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Mimetes*** | imitator (leaves resembling *Leucospermum)* |
| *arboreus* | tree |
| *argenteus* | silver (leaves) |
| *capitulatus* | golden flower |
| *cucullatus* | cowled (inflor.bracts) |
| |  |  | | --- | --- | |  | *dregei* | | after JF Drege (1794-1881) |
| |  |  | | --- | --- | |  | *laxifolia* | | lax-leaf |
| |  |  | | --- | --- | |  | *lyrigera* | | lyre-like (leaves) |
| |  |  | | --- | --- | |  | *mixta* | | of doubtful status (taxonomy) |
| |  |  | | --- | --- | |  | *schinziana* | | after H Schinz (1858-1941) |
| *fimbriifolius* | hairy margin-leaf |
| |  |  | | --- | --- | |  | *cucullatus* | | cowled (inflor. bracts) |
| |  |  | | --- | --- | |  | *hartogii* | | after J Hartog (1663-1722) |
| *hirtus* | hairy (leaves) |
| *hottentoticus* | of the hottentots (locality: Hottentot Holland Mountains) |
| *palustris* | from the marsh |
| *pauciflorus* | few-flowered |
| |  |  | | --- | --- | |  | *rehmanni* | | after A Rehmann (1840-1917) |
| *saxatilis* | of rocks (habitat) |
| *splendidus* | splendid |
| |  |  | | --- | --- | |  | *integris* | | in one piece (leaf margins) |
| *stokoei* | after JP Stokoe (1868-1959) |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Paranomus*** | meaning ‘beside the custom’, refers to the unusual leaves of some Scepters which do not have the typical net veins typical of flowering plants. This genus was also known as *Nivenia* (after J Niven (1776-1828) |
| *abrotanifolius* | *Abrotinus*- leaf |
| |  |  | | --- | --- | |  | *micranthus* | | small flowered |
| *adiantifolius* | maidenhair fern (*Adiantus) -*leaf |
| |  |  | | --- | --- | |  | *spathulatus* | | spoon-shaped (leaves) |
| *bolusii* | after H Bolus (1834-1911) |
| *bracteolaris* | bearing bracts (inflor.) |
| |  |  | | --- | --- | |  | *laxus* | | loose (inflor.) |
| *capitatus* | bearing a head (inflor.) |
| *centauroides* | resembling *Centaurea* (inflor.) |
| *dispersus* | scattered (distribution) |
| *dregei* | after JF Drege (1794-1881) |
| |  |  | | --- | --- | |  | *matlothii* | | after HWR Marloth (1855-1931) |
| *esterhuyseniae* | after EE Esterhuysen (1912-) |
| *lagopus* | hare-foot (inflor) |
| *longicaulis* | long-stemmed (flowering branch) |
| |  |  | | --- | --- | |  | *diversifolius* | | variable-leaf |
| *reflexus* | bent backwards (florets) |
| *roodebergensis* | from the Roodeberg |
| *sceptrum-gustavianus* | ‘King Gustav’s sceptre’ |
| |  |  | | --- | --- | |  | *sceptrum* | | sceptre (inflor.) |
| |  |  | | --- | --- | |  | *spathulatus* | | spoon-shaped (leaves) |
| |  |  | | --- | --- | |  | *muirii* | | after J Muir (1874-1947) |
| *spicatus* | resembling an ear of corn (inflor.) |
| |  |  | | --- | --- | |  | *crithmifolius* | | *Crithmum*-leaf |
| *tomentosus* | covered with wooly hairs (inflor.) |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Sorocephalus*** | heaped-head (inflorescence) |
| *alopecurus* | foxes-tail (infloroscences) |
| *capitatus* | having a head (stigma) |
| *clavigerus* | bearing a club (stigma) |
| |  |  | | --- | --- | |  | *rupestris* | | of the rocks (habitat) |
| *crassifolius* | *Crassula*-leaf |
| *imbricatus* | overlapping like tiles (leaves) |
| *lanatus* | fine woolly hair (perianth) |
| |  |  | | --- | --- | |  | *schlechteri* | | after FRR Schlechter (1872-1925) |
| *palustris* | from the marsh (habitat) |
| *pinifolius* | pine-leaf |
| |  |  | | --- | --- | |  | *longifolius* | | long-leaf |
| *scabridus* | rough (leaves) |
| *tenuifolius* | thin-leaf |
| *teretifolius* | needle-leaf |
| |  |  | | --- | --- | |  | *lanatus* | | fine woolly hair (perianth) |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Spatalla*** | ‘wantonness’- a sexual allusion to the large pollen presenter on so small a flower; also ‘spoon’. As defined today it inclused the genus *Spatallopsis* (‘small *Spatalla’)* |
| *argentea* | silver (leaves) |
| *barbigera* | bearing a beard (leaves) |
| |  |  | | --- | --- | |  | *burchellii* | | after WJ Burchell (1781-1863) |
| *caudata* | with a tail (flowering branches) |
| |  |  | | --- | --- | |  | *ericifolia* | | ericoid-leaf |
| |  |  | | --- | --- | |  | *caudaeflora* | | tail-plant (flowering branches) |
| *colorata* | colourful (inflor.) |
| *confusa* | confusing (a taxonomical problem) |
| *curvifolia* | curved-leaf |
| |  |  | | --- | --- | |  | *galpinii* | | after EE Galpin (1858-1941) |
| *ericoides* | resembling an Erica (leaves) |
| *incurva* | curved inwards (leaves) |
| |  |  | | --- | --- | |  | *mucronifolia* | | sharp tipped-leaf |
| |  |  | | --- | --- | |  | *wallichii* | | after N Wallich (1786-1854) |
| *longifolia* | long-leaf |
| |  |  | | --- | --- | |  | *cylindrica* | | cylindrical (inflor.) |
| *mollis* | soft (inflor. hairs) |
| |  |  | | --- | --- | |  | *brachyloba* | | branched-lobes (involucre) |
| |  |  | | --- | --- | |  | *pilosa* | | covered with hair (inflor.) |
| *nubicola* | living in the clouds |
| *pariles* | equal (similar to other species) |
| |  |  | | --- | --- | |  | *bolusii* | | afer H Bolus (1834-1911) |
| *prolifera* | bearing many flowers |
| *propinqua* | closely related (to *S incurva)* |
| *racemosa* | arranged in a raceme (inflor.) |
| *salsoides* | resembling a salt bush (habit) |
| *setacea* | bristled (inflor.) |
| *squamata* | scaled (bracteoles) |
| *thyrsiflora* | with a densely branched, cymose inflor. |
| *tulbaghensis* | from Tulbagh |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Protea*** | after the Greek God who could change his shape |
| *acaulos* | without a stem |
| *acuminata* | pointed (leaves) |
| |  |  | | --- | --- | |  | *cedromontana* | | Ceder mountains |
| *amplexicaulos* | clasping the stem |
| *angolensis* | from Angola |
| *angustata* | narrowed (leaves) |
| *aristata* | awned |
| *aspersa* | rough (leaves) |
| *asymmetrica* | asymmetrical |
| *aurea* | golden |
| |  |  | | --- | --- | |  | *longifolia* | | long-leaf |
| *burchellii* | after WJ Burchell (1781-1863) |
| |  |  | | --- | --- | |  | *pulchella* | | small-beautiful |
| |  |  | | --- | --- | |  | *pulchra* | | beautiful |
| |  |  | | --- | --- | |  | *subpulchella* | | somewhat-small-beautiful |
| *caespitosa* | growing in tufts |
| |  |  | | --- | --- | |  | *oleracea* | | of the cabbage family |
| *caffra* | Caffraria (eastern South Africa) |
| |  |  | | --- | --- | |  | *baurii* | | after LR Baur (1825-1889) |
| |  |  | | --- | --- | |  | *bolusii* | | after H Bolus (1834-1911) |
| |  |  | | --- | --- | |  | *gazensis* | | from Gaza |
| |  |  | | --- | --- | |  | *multibracteata* | | with many bracts |
| |  |  | | --- | --- | |  | *natalensis* | | from Natal |
| |  |  | | --- | --- | |  | *rhodantha* | | rose-flower |
| |  |  | | --- | --- | |  | *pegleriae* | | after AM Pegler (1861-1921) |
| |  |  | | --- | --- | |  | *stipitata* | | with a stalk |
| *canaliculata* | channelled (leaves) |
| |  |  | | --- | --- | |  | *harmeri* | | after SF Harmer |
| *compacta* | pressed together (leaves) |
| |  |  | | --- | --- | |  | *triandra* | | three-flowered |
| *comptonii* | after RH Compton (1886-1979) |
| *convexa* | domed (involucral receptacle) |
| *cordata* | heart-shaped (leaves) |
| *coronata* | crowned |
| |  |  | | --- | --- | |  | *incompta* | | unknown |
| |  |  | | --- | --- | |  | *macrocephala* | | big-headed |
| *cryophila* | cold-loving |
| |  |  | | --- | --- | |  | *chionantha* | | snow-flower |
| *curvata* | curved (leaves) |
| *cynaroides* | resembling an artichoke (*Cyanara)* |
| *decurrens* | running downwards (leaves) |
| *denticulata* | with minute teeth (leaves) |
| *dracomontana* | dragon mountain (Drakensburg) |
| |  |  | | --- | --- | |  | *inyanganiensis* | | from Inyanga |
| *effusa* | spreading out |
| |  |  | | --- | --- | |  | *marlothii* | | after HWR Marloth (1855-1931) |
| *enervis* | lacking vigor |
| *eximia* | distinguished |
| |  |  | | --- | --- | |  | *latifolia* | | broad-leaf |
| *foliosa* | full of leaves |
| *gaguedi* | vernacular name for *Protea* in Ethiopia |
| |  |  | | --- | --- | |  | *abyssinica* | | from Ethiopia |
| |  |  | | --- | --- | |  | *trigona* | | three-cornered (seeds) |
| *glabra* | hairless (leaves) |
| *grandiceps* | large / noble-head |
| *holosericea* | covered with silky hairs |
| *humiflora* | ground-flower |
| *inopina* | unexpected |
| *intonsa* | unshaven |
| *lacticolor* | milk-coloured |
| *laetans* | joyful (after Blyde River) |
| *laevis* | smooth |
| |  |  | | --- | --- | |  | *zeyheri* | | *after* C Zeyher (1799-1858) |
| *lanceolata* | lance-shaped (leaves) |
| |  |  | | --- | --- | |  | *laurifolia* | | laurel-leaf |
| *lepidocarpodendron* | scaly-fruit-tree |
| |  |  | | --- | --- | |  | *melaleuca* | | black-white |
| *longifolia* | long-leaf |
| |  |  | | --- | --- | |  | *ignota* | | unknown |
| |  |  | | --- | --- | |  | *minor* | | smaller |
| *lorea* | thong-like (leaves) |
| *lorifolia* | strap-leaf |
| |  |  | | --- | --- | |  | *macrophylla* | | big leaf |
| *magnifica* | magnificent |
| |  |  | | --- | --- | |  | *barbigera* | | bearded |
| *montana* | of the mountain |
| |  |  | | --- | --- | |  | *tugwelliae* | | after AM Tugwell |
| *mucronifolia* | sharp tipped-leaf |
| *mundii* | after JLL Mund (1791-1831) |
| *namaquana* | from namaqualand |
| *nana* | dwarf |
| |  |  | | --- | --- | |  | *rosacea* | | roselike |
| *neriifolia* | oleander (*Nerium) -*leaf |
| *nitida* | shining |
| |  |  | | --- | --- | |  | *arborea* | | tree |
| |  |  | | --- | --- | |  | *grandiflora* | | large / noble-flower |
| *nubigena* | born of the clouds |
| *obtusifolia* | round-tipped-leaf |
| |  |  | | --- | --- | |  | *calocephala* | | beautiful-head |
| *odorata* | sweet-smelling |
| *parvula* | very small |
| *pendula* | hanging down |
| *petiolaris* | stalked |
| |  |  | | --- | --- | |  | *katangensis* | | from Katanga |
| |  |  | | --- | --- | |  | *angolensis* | | from Angola |
| *piscina* | fish pond (Visgat) |
| |  |  | | --- | --- | |  | *tenuifolia* | | thin-leaf |
| *pityphylla* | pine-leaf |
| *pruinosa* | filled with hoar frost |
| *pudens* | bushful |
| *punctata* | marked with dots |
| *recondita* | hidden |
| *repens* | creeping (erroneously to habit) |
| |  |  | | --- | --- | |  | *millifera* | | nectar-producing |
| *restionfolia* | restio-leaf |
| *revoluta* | rolled back at edge (leaves) |
| *roupelliae* | after AE Roupell (1817-1914) |
| *rubropilosa* | red short hair |
| *rupicola* | rock-dweller |
| |  |  | | --- | --- | |  | *dykei* | | after ESC Dyke (?-1915) |
| |  |  | | --- | --- | |  | *saxicola* | | living among rocks |
| *scabra* | rough (leaves) |
| |  |  | | --- | --- | |  | *caledonsis* | | from Caledon |
| *scabriuscula* | slightly rough (leaves) |
| *scolopendriifolia* | hart tongue fern-leaf |
| *scolymocephala* | thistle (*Scolymus)-*head |
| *scorzonerifolia* | salsify (*Scorzonera)-*leaf |
| *simplex* | simple |
| |  |  | | --- | --- | |  | *doddii* | | after W Dodd |
| |  |  | | --- | --- | |  | *flanaganii* | | after HG Flanagan (1861-1919) |
| |  |  | | --- | --- | |  | *transvalensis* | | from the Transvaal |
| *speciosa* | handsome |
| |  |  | | --- | --- | |  | *patersonii* | | after W Paterson (1755-1810) |
| *stokoei* | after TP Stokoe (1868-1959) |
| *subulifolia* | awl-leaf |
| *subvestita* | partially clothed (leaf hairs) |
| |  |  | | --- | --- | |  | *lacticolor* | | milk-coloured |
| |  |  | | --- | --- | |  | *orientalis* | | of the east |
| *sulphurea* | sulphur-coloured |
| *susannae* | after Susanna Muir |
| *tenax* | tough |
| |  |  | | --- | --- | |  | *undulata* | | wavy |
| *venusta* | beautiful |
| *vogtsiae* | after MM Vogts (born 12008) |
| *welwitschii* | after FMJ Welwitsch (1806 -) |
| *wentzeliana* | after Wentzel |
| |  |  | | --- | --- | |  | *crinita* | | bearded |
| |  |  | | --- | --- | |  | *neocrinita* | | new-bearded |
| *witzenbergiana* | of the Witzenberg |

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| **Scientific Name** | **Origin of Scientific Name - Meaning** |
| ***Serruria*** | after Dr James Serrurier, Professor of botany at Utrecht, 18th century |
| *acrocarpa* | ‘tip seed’ (style persistent on fruit) |
| *adscendens* | ‘rising’ (branches) |
| *aemula* | ‘rival’ (in beauty) |
| |  |  | | --- | --- | |  | *ciliata* | | ‘fringed with hairs’ (leaf) |
| *aitonii* | after W Aiton (- 1793) |
| |  |  | | --- | --- | |  | *argentifolia* | | ‘silver-leaf’ |
| |  |  | | --- | --- | |  | *amoena* | | ‘pleasant’ |
| *dodii* | after W Dodd |
| *effusa* | ‘spread out’ (habit) |
| *elongata* | *‘*elongate’ (inflo. stalk) |
| *fasciflora* | ‘bundle-flowered’ |
| |  |  | | --- | --- | |  | *biglandulosa* | | ‘two-glanded’ |
| |  |  | | --- | --- | |  | *burmannii* | | after Burmann |
| |  |  | | --- | --- | |  | *knightii* | | after J Knight |
| |  |  | | --- | --- | |  | *pauciflora* | | ‘few-flowers’ |
| |  |  | | --- | --- | |  | *subsericea* | | ‘somewhat-silky-haired’ |
| *flagellifolia* | ‘whip-leaf’ |
| *flava* | ‘yellow’ (flowers) |
| *florida* | ‘adorned with beautiful flowers’ |
| *fucifolia* | ‘Fucus (a seaweed) - leaf’ |
| *furcellata* | ‘small-fork’ (leaf) |
| *glomerata* | ‘small clustered mass’ (inflor.) |
| *heterophylla* | ‘various leaf’ (shape) |
| *hirusta* | ‘long-haired’ (leaf) |
| *inconspicua* | ‘inconspicuous’ (small inflor.) |
| *incrassata* | ‘very thick’ (stems) |
| *kraussii* | after CFF Krauss (1812-18200) |
| *leipoldtii* | after CFL Leipoldt (1880-1947) |
| *linearis* | ‘linear’ (leaves) |
| |  |  | | --- | --- | |  | *simplicifolia* | | ‘simple-leaf’ |
| *meisneriana* | after CF Meisner (1800-1874) |
| *millefolia* | ‘thousand-leaves’ |
| *nervosa* | ‘sinewy’ (leaf) |
| |  |  | | --- | --- | |  | *bolusii* | | after H Bolus (1834-1911) |
| *pedunculata* | ‘stalked’ (inflor.) |
| |  |  | | --- | --- | |  | *artemissifolia* | | ‘*Artemisia -*leaf’ |
| |  |  | | --- | --- | |  | *longipes* | | ‘long-footed’ (inflor. stalk) |
| *phylicoides* | ‘resembling *Phylica’* (inflor.) |
| |  |  | | --- | --- | |  | *barbigera* | | ‘bearded’ (perianth) |
| *pinnata* | ‘stalked’ (leaf) |
| |  |  | | --- | --- | |  | *gracilis* | | ‘graceful’ (inflor.) |
| *reflexa* | ‘bending backwards’ (style) |
| *rosea* | ‘pink’ (invol bracts) |
| |  |  | | --- | --- | |  | *aemula* | | ‘rival’ (beauty) |
| *rostellaris* | ‘short-beaked’ (fruit) |
| *roxburghii* | after W Roxburgh (1751-1815) |
| *rubricaulis* | ‘red-stem’ |
| *trilopha* | ‘three-crested’ (leaf) |
| *triternata* | ‘three-threes’ (leaf) |
| |  |  | | --- | --- | |  | *anethifolia* | | ‘dill (*Anethum) -* leaf’ |
| *villosa* | shaggy-haired’ (perianth) |
| |  |  | | --- | --- | |  | *vallaris* | | ‘of the valley’ (habitat) |
| *viridifolia* | ‘green-leaf’ |
| |  |  | | --- | --- | |  | *glabra* | | ‘hairless’ (leaf) |
| *williamsii* | after IJM Williams (1912-) |
| *zeyheri* | after CLP Zeyher (1799-1858) |