

## ***Leucospermum* R. Br. 1810**

The type species is *L. hypophyllocarpodendron*, which was first described by Linnaeus as a member of his large genus *Leucadendron*. Linnaeus later moved this to *Protea*. Various authors prior to Robert Brown proposed names for Pincushions, these being *Conocarpus* Adanson 1763, *Lepidocarpus* Adanson 1763, and *Leucadendrum* Salisb. 1807. Robert Brown's name is conserved.

There are x sections of Pincushions, and we have followed Rourke's (1972) treatment, with the exception of a new section discovered in 198\* for the Hook Pincushions, and the removal of the section *Xericola* to the genus *Vexatorella*.

*Leucospermum cuneiforme* (Burm. f.) Rourke 1768, 1967

**Wart-stemmed Pincushion**

*Gewoneluisiesbos*

**Other Common Names:** Common Pincushion, Large-tufted Pincushion, Phyllanthus-leaf Leucadendrum, Stagshorn-leaf Leucadendrum, Yellow Pincushion, Yellow-flame Pincushion, *Boontjiesbos*, *Geelspeldekussing*, *Klipboom*, *Kreupelbossie*, *Luisiesboom*, *Luisiesbos*, *Mielieput*, *Wildemielie*.

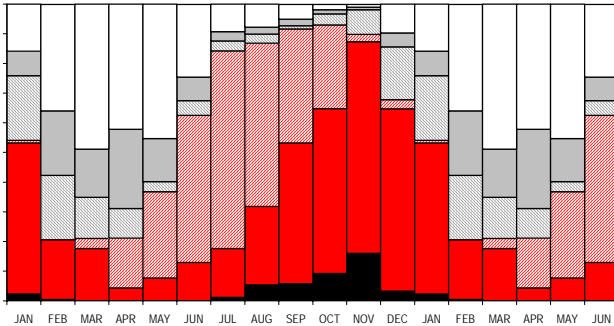
**Other Scientific Names:** *attenuatum* R.Br. 1810, *cervinum* (Salisb. ex Knight) 1809, *ellipticum* (Thumb.) 1781, *phyllanthifolium* (Salisb. ex Knight) 1809, *septemdentatum* Gand. & Schinz 1913, *zeyheri* Meisn. 1856.

**3 612 Records**

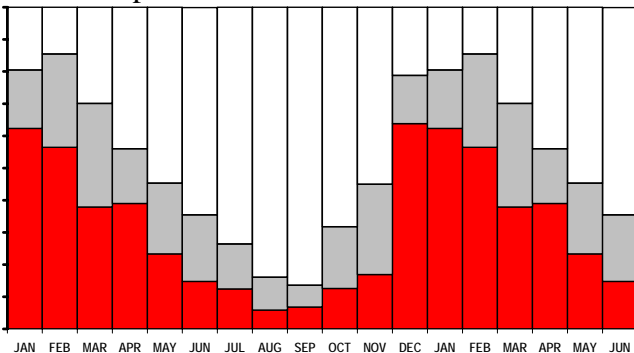
**Population** (3580 records): 0.1% Abundant, 18% Common, 63% Frequent, 19% Rare, 0.1% Extinct.

**Dispersion** (3296 records): 60% variable, 29% clumped, 9% widespread, 2% evenly distributed.

**Flowering** (3508 records with: Jan 220, Feb 184, Mar 438, Apr 180, May 234, Jun 139, Jul 323, Aug 258, Sep 359, Oct 489, Nov 324, Dec 360): Buds from May to Oct; Flowering from Aug to Jan; Peak Flowering not significant; Over from Jan to Feb; Fruit from Feb and Apr; Nothing from Feb to Jun. Peak levels at 98% in Nov. Historically recorded as flowering from at any time of the year but mainly Aug to Feb.



**Growth** (3466 records with: Jan 220, Feb 186, Mar 441, Apr 182, May 232, Jun 135, Jul 307, Aug 254, Sep 353, Oct 484, Nov 313, Dec 359): Much from Dec to May; Rare from Feb to Mar, May to Jun and Nov; None from Apr to Jan. Peak levels at 86% in Feb.

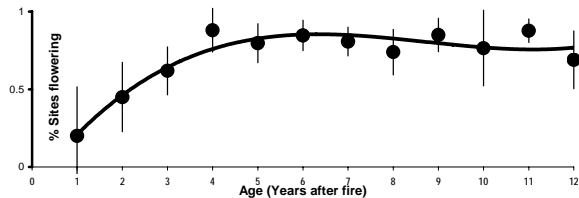


<check if variation in growth & flowering>

**Seedlings** (1729 records): Absent in 97%; fewer seedlings than prefire adults in 22 cases, and more in 8 cases. Seedlings found in Mar (3), Apr (4), Jun (6), Jul (4), Aug, Sep, Oct (5), Nov (3) and Dec (3).

**Fire Survival** (292 records): 71% resprouted from underground boles, 13% escaped fires in fire-safe areas, 13% resprouted from aerial trunks, 2% eliminated from the area by fires, 0.7% survived by seedlings only.

**Age to first flowering:** y1 50% (24), y2 38% (24), y3 61% (49), y4 89% (55), y5 79% (66), y6 85% (108), y7 81% (122), y8 74% (46), y9 86% (91), y10 78% (18), y11 88% (173), y12 69% (29), y13 86% (43), y14 86% (7), y15 88% (16), y16 90% (77), y17 100% (4), y18 75% (4), y19 100% (1), y20 33% (3), y21 86% (80). First flowers recorded at 1 years, 50% estimated at 2-3 years, and reaching a peak of 90% at 4 years.



**Height** (3545 records): 2% 0-0.2 m tall, 69% 0.2-1 m tall, 28% 1-2 m tall, 1.0% 2-5 m tall.

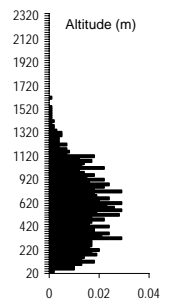
**Pollinators** (61 records): 69% birds, 16% beetles, 8% bees or wasps, 3% mammals, 3% none observed.

**Detailed Pollinators** (48 records): Cape Sugarbird (23), Orange-breasted Sunbird (9), Malachite Sunbird (5), Honey Bee (3), Greater Double-collared Sunbird (2), Great Protea Beetle (2), Snout Weevil, Scarab Beetle, Protea Seed-eater, Monkey Beetle.

**Habitat:**

**Distance to Ocean** (3424 records): 96% inland - further than 2 km from coast.

**Altitude** (3424 records): 20 - 1760 m; 320<sub>lq</sub> - 560<sub>med</sub> - 760<sub>uq</sub> m.

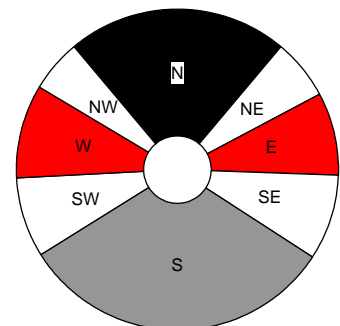


**Landform** (3408 records): 71% deep soil, 25% shallow soil, 4% rocky outcrops, 0.2% riverine, 0.1% swamp.

**Slope** (3416 records): 44% gentle incline, 37% steep incline, 12% hill top, 6% platform, 1% cliff, 0.5% valley bottom, 0.0% dunes.

**Aspect** (2918 records): 41% South, 28% North, 16% West, 15% East.

**Soil Type** (3379 records): 49% loamy, 35% sandy, 8% gravelly, 4% rocky,



2% clayey, 0.8% peaty.  
**Soil Colour** (3377 records): 48% grey, 42% brown, 4% black, 2% red, 1% yellow, 1% orange, 0.8% white.  
**Geology** (3312 records): 89% sandstone, 4% shale, 3% silcrete or ferricrete, 2% conglomerate, 1% Tertiary sands, 0.5% limestone, 0.5% granite.  
**Vegetation** (3407 records): 91% shrubland, 5% grassland, 2% plantations, 0.6% wooded grassland, 0.6% thicket, 0.3% agricultural lands, 0.1% forest, 0.0% suburban.

### **Conservation Status and Threat:**

**Red Data List Status:** Least Concern.  
Occurrence (Fynbos – excludes Transkei islands): 23 088 km<sup>2</sup> with 27% conserved and 15% lost; Occupancy: 3 651 km<sup>2</sup> with 37% conserved and 13% lost. Fragmentation index: 5%.

**Nature Reserves** (3424 records): 40% in nature reserves.

**Habitat destruction** (3328 records): 89% extensive natural habitat, 8% islands, 1% naturally linear habitats, 1% road verges, 0.7% naturally fragmented habitats, 0.4% corridors.

**Alien Invasive Species** (3293 records): 50% none, 18% Fabaceae (chiefly alien *Acacia*), 17% *Pinus*, 12% *Hakea*, 1% other aliens, 1% Myrtaceae, 0.1% annual alien grasses.

**Alien Density** (3289 records): 50% alien-free, 40% sparse, 7% abundant, 3% dense, 0.2% impenetrable.

### **Cultivation & Utilization:**

**Picking** (2584 records): 99% no sign of picking, 0.7% lightly picked, 0.1% severely picked.

**Cultivation Status:** Plantings - 10 records (0.3%), Escapes - 1 record (0.03%).

### **Atlassers Notes:**

#### *Habit:*

Many plants were sprawling (DOA96100501 + 2); Sprawling form (DOA97021102); Very stunted (DFJ96081002); Common but striking as it is all "ground hugging" (DFJ97061801); Here is small stunted and confined to rock bands - is this the western limit of its comfortable range? (DFJ99032102); Low stunted form (DOA92111010); A low spreading bush here (LYM98040502); All plants on this mountain have a very flat sprawling habit (MCG97052501); Very low growing - flat on the ground (MCG98052507); Entirely of the prostrate form (NAH99051104); Totally prostrate with leaves standing vertically – secund (OUT94040905+7-9+11); Two distinct forms - prostrate and upright (OUT96100501); Prostrate type (OUT96100502+9); Creeping form (SHS93071201, SHS93081701+2); Trailing stems and secund leaves at a variety of sites in the Attakwas Kloof Nature Reserve (SHS95102101); Decumbent (trailing) form (SHS97020503); Plants taller in east part of plot - possibly deeper soil as slope become less in col? (TLE97092302); Very large bush (MCG97030901); Very large - small trees (MCG97062805, MCG97111601); Certain specimens in excess of 2 m

(SMLY0121101); Large trees with warts all way up to two year old growth (AGRY1032922+23); Very large trees with trunks 500 mm in diameter (MCG97070811);

#### *Variation:*

Flowers small - < 50 mm top to stipe (AGR92122905); Strange coloured - almost white & very large flowers & teeth on leaves (OUT94061802); Quite different to the ones found at garcia pass - the leaves are smaller, nectaries more yellow and tiny instead of big and dark, red flower heads are more clustered - two sometimes three heads stuck together (RDF94103001); No knobby warts on stem (AGR97010424); Specimens were in poor condition and stunted with no sign of warts on stems (DFJ95012301); All have smooth stems – i.e. no warts observed (PRG94091701); Resprouter but no warts (WMP98022801);

#### *Recovery:*

Good recovery : lots of young plants (AGR93010201); Some plants slightly sick - drought? (AGRY0070709); No deaths observed (AGRY1070702); Lots of plants dead (AGRY0122818); All very healthy plants - no sign of fires so very mature (DFJ97022301); Resprouting and reseedling (DOA93112908); Several small plants and a number of adult plants were noticeably beginning to die off (KEXY0082601); About 50% of plants killed by fire 5 yrs ago - rest are resprouting (MCG97070810); Very poor recovery after fire - especially with *P. neritifolia* - no seedlings spotted until after March 2000 (MHGY0071001); Many skeletons: why? (NGFY0122807); Some dead plants (OUT95081910); Several dead plants (WIJY0123105); Some incredibly old - huge boles! sample: 24 dead 22 living 4 young (AGR91122901); A remarkable surviving bunch in the midst of an intensive small- holding farming area (DFJ97021802); Locality severely overgrazed by farm livestock - population under severe threat - will not survive unless livestock are withdrawn (JCM92122501);

#### *Flowering:*

No flowering despite peak flowering in nearby younger veld (RMC91120502); Second flowering this year (VCH99090812); Ants collecting seed (MHG92122702+3); Picking by rodents or baboons destroying the flowerhead - in search of the seeds? (GNI95012105); Not picked but much eaten - bits of flowerheads scattered around (SMR98112501);

#### *Pollination:*

Pollinators - small black beetles (AGRY3102808); Beetle on flowerheads with reddish tan on patch between wing casing adj. thorax and black central rim to elytra and mustard wing casings and hairy abdomen - looks scarabid (BMJ97110902); Dark brown hairless beetle (GNI93102501); Rodent droppings - probably that of Striped Mouse seen around most flowerheads (PRG94091701); Fresh droppings found at flowerheads (PRG95071802); Ants (HRK96101301, OUT98091204)

#### *Predation:*

A large caterpillar about 10cm long 2cm diameter red with yellow and green white speckled bands and black feet eating the leaves (PNR97101601); Some of the old plants appear to have been cut down to encourage new growth (KEXY0122801);

**Confusing Species:** Confused with a variety of unrelated species, primarily because of not noting the resprouting habit and not looking for warts on the basal stems. These included *L. pluridens*, *erubescens*, *fulgens*, and *truncatum*. The creeping form had atlassers

foxed and were identified as *L. royenifolium*, *calligerum* and *hamatum*.  
Records of identification queries = 69.  
Records of corrected identification queries = 26.

**Variation and Taxonomy:** A variable species with some forms being described on the basis of leaf length, tothing of apex and size of flowerheads.

**Distribution:** Add.

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***Leucospermum gerrardii* Stapf. 1912**  
**Soapstone Pincushion**  
*Wortelstokspeldekussing*

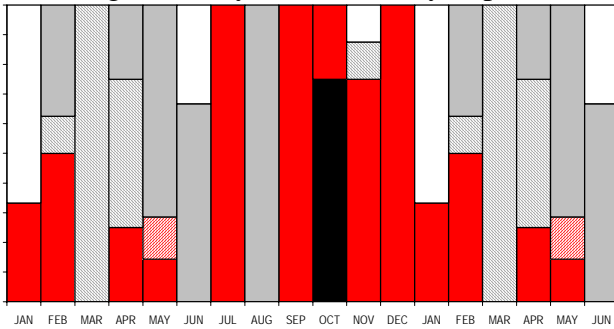
**Other Common Names:** Dwarf Pincushion, Soboliferous Pincushion.  
**Other Scientific Names:** *None*.

**43 Records**

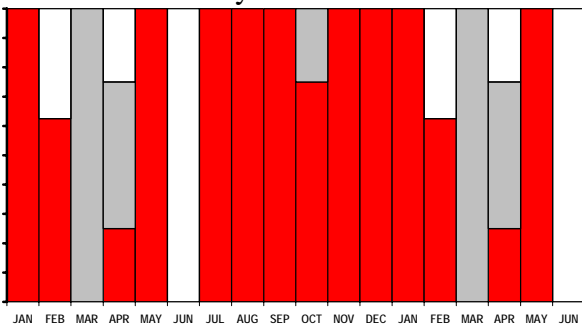
**Population** (42 records): 2% Abundant, 43% Common, 36% Frequent, 19% Rare.

**Dispersion** (40 records): 50% variable, 38% clumped, 8% evenly distributed, 5% widespread.

**Flowering** (43 records with: Jan 3, Feb 8, Mar 1, Apr 4, May 7, Jun 3, Jul 2, Aug 1, Sep 1, Oct 4, Nov 8, Dec 1): Buds not significant; Flowering from Sep to Feb, and Apr; Peak Flowering from Oct; Over from Mar to Apr; Fruit from Feb to Jun; Nothing from Jan and Jun. Peak levels unreliable at 100% in Oct. Historically recorded as flowering erratically throughout the year, but chiefly Sep to Nov.



**Growth** (43 records with: Jan 3, Feb 8, Mar 1, Apr 4, May 7, Jun 3, Jul 2, Aug 1, Sep 1, Oct 4, Nov 8, Dec 1): Much from Jul to Feb, and Apr to May; Rare from Mar to Apr and Oct; None from Feb, Apr and Jun. Peak levels at 100% from May to Jan.



**Seedlings** (21 records): Absent in 90%; fewer seedlings than prefire adults in 1 case. Seedlings found in Nov.

**Fire Survival** (24 records): 79% resprouted from underground boles, 21% escaped fires in fire-safe areas.

**Age to first flowering:** A resprouter with first flowers recorded at 1 years, 50% estimated at 1 years, and 100% recorded at 2 years.



**Height** (43 records): 49% 0-0.2 m tall, 49% 0.2-1 m tall, 2% 1-2 m tall.

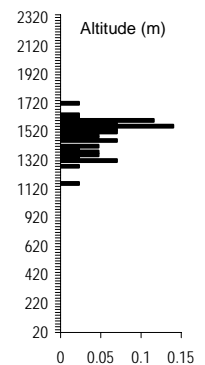
**Pollinators** (2 records): 50% birds, 50% none observed.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (43 records): 100% inland - further than 2 km from coast.

**Altitude** (43 records): 1040 - 1620 m; 1280 *lq* - 1420 *med* - 1460 *uq*m.



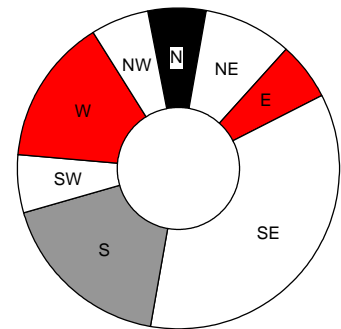
**Landform** (43 records): 47% shallow soil, 42% deep soil, 12% rocky outcrops.

**Slope** (43 records): 53% gentle incline, 16% steep incline, 14% hill top, 14% platform, 2% valley bottom.

**Aspect** (34 records): 40% South, 25% East, 21% West, 15% North.

**Soil Type** (42 records): 76% loamy, 17% sandy, 5% clayey, 2% rocky.

**Soil Colour** (42 records): 64% brown, 24% grey, 5% black, 2% yellow, 2% orange, 2% red.



**Geology** (13 records): 54% sandstone, 31% shale, 8% conglomerate, 8% granite.

**Vegetation** (43 records): 79% grassland, 14% wooded grassland, 7% shrubland.

**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened A2c: in KwaZulu-Natal: Endangered B1a(i,ii)b(i,ii,iii,iv,v) +2a(i,ii)b(i,ii,iii,iv,v); in Mpumalanga: Near Threatened D2(i); in Swaziland: Near Threatened D2(i).

Occurrence (total): 1 267 km<sup>2</sup> with 0% conserved and 28% lost; Occupancy: 77 km<sup>2</sup> with 0% conserved and 11% lost.

Fragmentation index: 6%.

**Nature Reserves** (43 records): 74% in nature reserves - well conserved.

**Habitat destruction** (43 records):

77% extensive natural habitat, 14% islands,  
9% naturally linear habitats.

**Alien Invasive Species** (38 records): 68% none,  
21% *Pinus*, 5% Fabaceae (chiefly alien  
*Acacia*), 3% Myrtaceae, 3% annual alien  
grasses.

**Alien Density** (38 records): 68% alien-free,  
26% sparse, 5% abundant.

**Cultivation & Utilization:**

**Picking** (36 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Witch's Broom Infestation:** 1 records (2%).

**Atlasers Notes:**

Appears to occur in bands down hillside  
corresponding to outcrops of soapstone (talc  
schists) (KPB93053009-14).

**Confusing Species:** One record of confusion  
with *L. saxosum*.

Records of identification queries = 4.

Records of corrected identification queries = 1.

**Variation and Taxonomy:** Collections from  
KwaZulu-Natal have broader leaves (> 15  
mm wide) and occur on sandstone. Those  
from the Barberton escarpment have  
narrower leaves (< 10 mm wide) and occur  
on granite and quartzite. This variation is  
not formally recognized as intermediate  
forms occur.

**Distribution:** Add.

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*Leucospermum innovans* Rourke 1972  
**Pondoland Pincushion**  
*Pondolandspeldekussing*

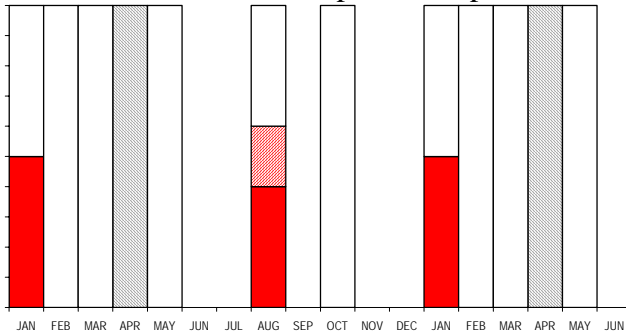
**Other Common Names:** Transkei Pincushion.  
**Other Scientific Names:** *None*.

**20 Records**

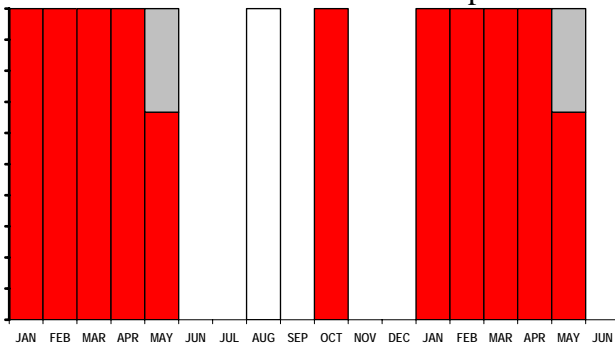
**Population** (20 records): 10% Common, 55% Frequent, 35% Rare.

**Dispersion** (18 records): 50% variable, 28% clumped, 11% evenly distributed, 11% widespread.

**Flowering** (19 records with: Jan 2, Feb 2, Mar 2, Apr 4, May 3, Jun 0, Jul 0, Aug 5, Sep 0, Oct 1, Nov 0, Dec 0): Buds from Aug; Flowering from Jan and Aug; Peak Flowering not recorded; Over from Apr; Fruit not recorded; Nothing from May to Mar. Peak levels unreliable at 100% in Apr. Historically recorded as flowering erratically from Jul to Dec with a peak in Sep to Oct.



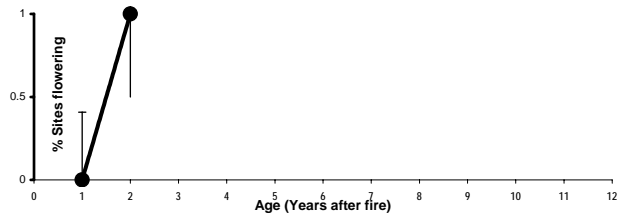
**Growth** (20 records with: Jan 2, Feb 2, Mar 2, Apr 4, May 3, Jun 0, Jul 0, Aug 5, Sep 0, Oct 2, Nov 0, Dec 0): Much from Oct to May; Rare from May; None from Aug. Peak levels unreliable at 100% from Jan to Apr and Oct.



**Seedlings** (16 records): All without any seedlings present.

**Fire Survival** (18 records): 100% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 1 years, 50% estimated at 1-2 years, and 100% recorded at 2 years.



**Height** (20 records): 10% 0-0.2 m tall, 85% 0.2-1 m tall, 5% 1-2 m tall.

**Pollinators** : No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

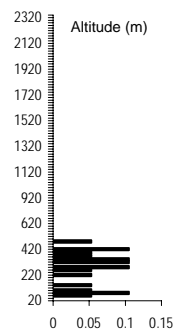
**Distance to Ocean** (19 records): 74% inland - further than 2 km from coast.

**Altitude** (19 records): 40 - 480 m; 120<sub>lq</sub> - 280<sub>med</sub> - 340<sub>uq</sub>m.

**Landform** (19 records): 42% deep soil, 42% shallow soil, 11% riverine, 5% rocky outcrops.

**Slope** (19 records): 42% gentle incline, 26% steep incline, 26% hill top, 5% platform.

**Aspect** (14 records): 54% South, 21% East, 18% West, 7% North.

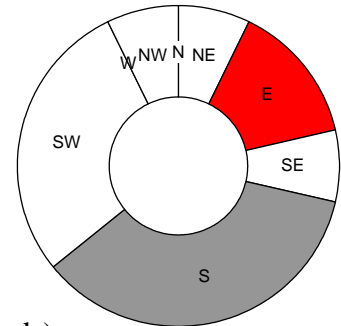


**Soil Type** (19 records): 63% sandy, 37% loamy.

**Soil Colour** (19 records): 68% grey, 32% brown.

**Geology** (19 records): 100% sandstone.

**Vegetation** (18 records): 94% grassland, 6% shrubland.



**Conservation Status and Threat:**

**Red Data List Status:** Endangered

B1a(i)b(ii,iii,v) +2a(i)b(ii,iii,v).

Occurrence (Total): 642 km<sup>2</sup> with 14% conserved and 20% lost; Occupancy: 29 km<sup>2</sup> with 0% conserved and 16% lost.

Fragmentation index: 5%.

**Nature Reserves** (19 records): 11% in nature reserves - inadequately conserved.

**Habitat destruction** (9 records): 89% extensive natural habitat, 11% islands.

**Alien Invasive Species** (9 records): 78% none, 11% *Hakea*, 11% Fabaceae (chiefly alien *Acacia*).

**Alien Density** (9 records): 78% alien-free, 22% sparse.

**Cultivation & Utilization:**

**Picking** (18 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Resprouter - larger rootstocks tending to die off centrally and break up into smaller unit (ATA92101001).

Base of single plant is about 450 mm across - other plants in area have died. Farmer says this is the northern-most locality (WIJ96100801).

Colony vulnerable due to new dwellings in the area (ATA92101001); No other stand anywhere near this number of plants known - corrections: just heard of more near Port Grosvenor - the Mazizi maize project wiped out quite a lot a few years back (ATA99033001); Once 4 plants now down to

1 due to hot fire on recommendation of Geoff Nicars farmer. Len Rossels has plants in nursery (NSC95020601).

**Confusing Species:** None known.

**Variation and Taxonomy:** No variation known, although leaves vary considerably in size on any plant.

**Distribution:** Add.

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***Leucospermum saxosum* S. Moore 1911**  
**Escarpment Pincushion**  
*Spitsblaarspeldekussing*

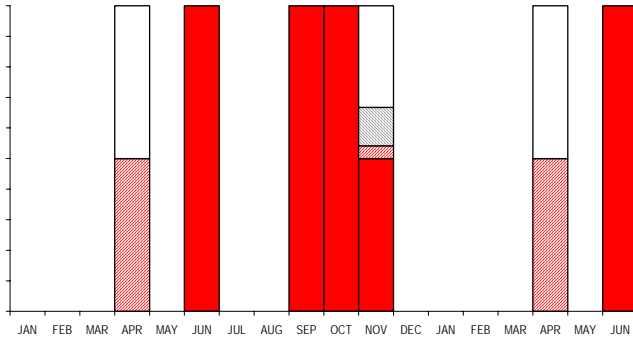
**Other Common Names:** Chimanimani  
 Pincushion, Pincushion, *Gombate* (eastern Shona), *Mardi Gras Orange*.  
**Other Scientific Names:** *None*.

**34 Records**

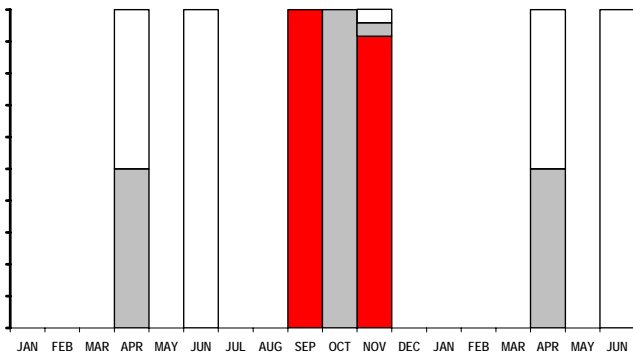
**Population** (34 records): 12% Common, 71% Frequent, 18% Rare.

**Dispersion** (30 records): 70% variable, 30% clumped.

**Flowering** (34 records with: Jan 0, Feb 0, Mar 0, Apr 2, May 0, Jun 4, Jul 0, Aug 0, Sep 3, Oct 1, Nov 24, Dec 0): Buds from Apr; Flowering from Jun to 50; Peak Flowering not recorded; Over not significant; Fruit not recorded; Nothing from Apr and Nov. Peak levels unreliable at 100% in Jun and Sep. Historically recorded as flowering erratically throughout the year but peaking from Sep to Dec.



**Growth** (34 records with: Jan 0, Feb 0, Mar 0, Apr 2, May 0, Jun 4, Jul 0, Aug 0, Sep 3, Oct 1, Nov 24, Dec 0): Much from Sep and Nov; Rare from Apr and Oct; None from Apr to Jun. Peak levels unreliable at 100% in Sep to Oct.



**Seedlings** (16 records): All without any seedlings present.

**Fire Survival** (24 records): 92% resprouted from underground boles, 4% escaped fires in fire-safe areas, 4% resprouted from aerial trunks.

**Age to first flowering:** No data.

**Height** (34 records): 85% 0.2-1 m tall, 15% 1-2 m tall.

**Pollinators** (1 record): 100% none observed.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (34 records): 100% inland - further than 2 km from coast.

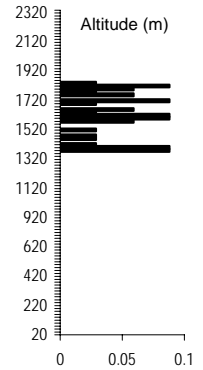
**Altitude** (34 records): 1260 - 1740 m; 1360<sub>lq</sub> - 1520<sub>med</sub> - 1600<sub>uq</sub>m.

**Landform** (34 records):

59% deep soil, 26% shallow soil, 12% rocky outcrops, 3% riverine.

**Slope** (33 records): 45% gentle incline, 30% steep incline, 21% platform, 3% valley bottom.

**Aspect** (31 records): 52% West, 23% South, 13% North, 13% East.



**Soil Type** (34 records):

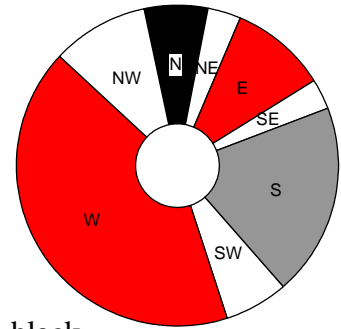
47% sandy, 38% loamy, 6% gravelly, 3% clayey, 3% peaty, 3% rocky.

**Soil Colour** (34 records):

41% grey, 32% brown, 12% black, 9% red, 6% white.

**Geology** (24 records): 83% sandstone, 13% shale, 4% silcrete or ferricrete.

**Vegetation** (34 records): 44% grassland, 29% wooded grassland, 18% shrubland, 9% woodland.



**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened D2(ii); in South Africa: Endangered D.

**Occurrence** (total): 23 457 km<sup>2</sup> with 30% conserved and 91% lost; **Occupancy:** 19 km<sup>2</sup> with 0% conserved and 7% lost. **Fragmentation index:** 0%.

**Nature Reserves** (34 records): 65% in nature reserves - well conserved.

**Habitat destruction** (34 records): 91% extensive natural habitat, 6% naturally linear habitats, 3% naturally fragmented habitats.

**Alien Invasive Species** (34 records): 85% none, 9% Fabaceae (chiefly alien *Acacia*), 6% *Pinus*.

**Alien Density** (34 records): 85% alien-free, 15% sparse.

**Cultivation & Utilization:**

**Picking** (27 records): 100% no sign of picking. **Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Many flowerheads lying on the ground: must remember that their was storm. flowerheads

appear to have an abscission layer  
(LOT95102101);  
Some plants with large (0.5m diameter) bole  
from which they resprout (RHEY0090909);  
Most plants on edge of riverine bush, some  
inside riverine bush. In association with  
*Kotschya parvifolia* (RHEY0090909);

**Confusing Species:** None known –  
geographically isolated.

**Variation and Taxonomy:** No variation noted.

**Distribution:** Add.

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*Leucospermum conocarpodendron* subsp. *viridum* Rourke 1972

**Green Tree Pincushion**

*Goudboom*

**Other Common Names:** Cripple-tree Pincushion, Cripplewood, Gnarled Wood, Golden Pincushion, Hairless Tree Pincushion, Monkey Protea, Thick-stem Leucadendrum, Tree Pincushion, Yellow Pincushion, *Kruppelholz*, *Bobbejaanbos*, *Brandhoutboom*, *Goudblomboom*, *Goudboom*, *Goudsbrandhoutboom*, *Gouebrandhoutboom*, *Groenkreupelhout*, *Kreupelboom*, *Kreupelbrandhoutboom*, *Kreupelhout*.

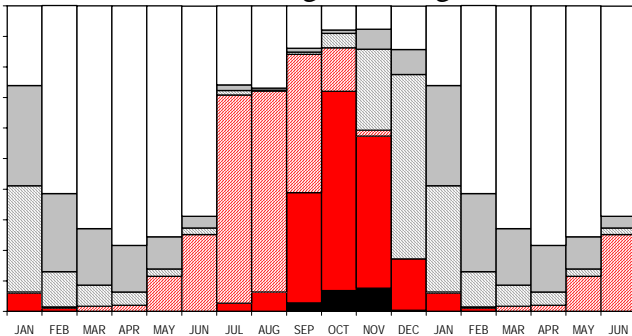
**Other Scientific Names:** *None*.

**3 329 Records**

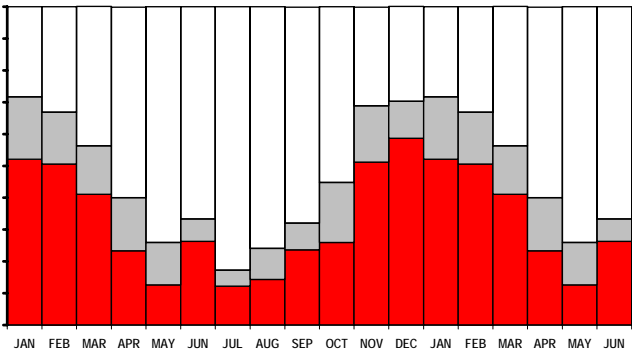
**Population** (3265 records): 0.1% Abundant, 17% Common, 64% Frequent, 19% Rare, 0.1% Extinct.

**Dispersion** (3016 records): 74% variable, 18% clumped, 8% widespread, 0.6% evenly distributed.

**Flowering** (3253 records with: Jan 268, Feb 262, Mar 303, Apr 296, May 287, Jun 234, Jul 332, Aug 297, Sep 252, Oct 279, Nov 211, Dec 232): Buds from Jun to Sep; Flowering from Sep to Nov; Peak Flowering not significant; Over from Nov to Jan; Fruit from Jan to Feb; Nothing from Jan to Aug. Peak levels at 91% in Oct. Historically recorded as flowering from Aug to Jan.



**Growth** (3140 records with: Jan 265, Feb 263, Mar 297, Apr 287, May 270, Jun 228, Jul 320, Aug 286, Sep 237, Oct 259, Nov 203, Dec 225): Much from Sep to Apr; Rare from Jan; None from all year peaking in Apr to Oct. Peak levels at 72% in Jan.



**Seedlings** (1033 records): Absent in 85%; fewer seedlings than prefire adults in 52 cases, and

more in 26 cases. Seedlings found in Jan (5), Feb (4), Mar (6), Apr (11), May (2), Jun, Jul (13), Aug (13), Sep (8), Oct (3), Nov (11) and Dec.

**Fire Survival** (465 records): 43% resprouted from aerial trunks, 40% escaped fires in fire-safe areas, 13% survived by seedlings only, 3% eliminated from the area by fires, 2% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 1 years – from resprouting plants, 50% estimated at 2-3 years, and 100% recorded at 17 years. Hint of start of senescence after 18 years?



**Height** (3302 records): 2% 0-0.2 m tall, 17% 0.2-1 m tall, 59% 1-2 m tall, 23% 2-5 m tall, 0.2% taller than 5 m.

**Pollinators** (70 records): 74% birds, 17% beetles, 9% bees or wasps.

**Detailed Pollinators** (51 records): Cape Sugarbird (28), Orange-breasted Sunbird (13), Great Protea Beetle (6), Southern Double-collared Sunbird, Malachite Sunbird, Honey Bee, Carpenter Bee.

**Habitat:**

**Distance to Ocean** (3144 records): 53% coastal - less than 2 km from coast.

**Altitude** (3150 records): 20 - 1160 m; 100 *lq* - 180 *med* - 280 *uq*m.

**Landform** (3141 records): 74% deep soil, 17% shallow soil, 9% rocky outcrops, 0.4% swamp, 0.3% riverine, 0.1% lake edge.

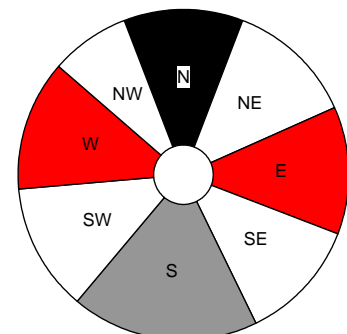
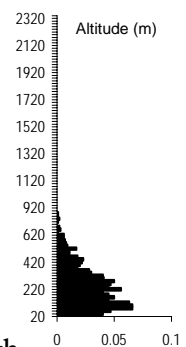
**Slope** (3133 records): 53% gentle incline, 30% steep incline, 9% platform, 5% hill top, 2% valley bottom, 0.8% cliff, 0.1% dunes.

**Aspect** (2763 records): 30% South, 25% East, 23% West, 22% North.

**Soil Type** (3125 records):

83% sandy, 11% loamy, 3% gravelly, 2% rocky, 0.8% clayey, 0.5% peaty.

**Soil Colour** (3110 records):



63% grey, 22% brown, 10% white, 2% orange, 2% black, 0.9% yellow, 0.5% red.

**Geology** (3070 records): 91% sandstone, 4% granite, 2% shale, 2% Tertiary sands, 1% silcrete or ferricrete.

**Vegetation** (3141 records): 97% shrubland, 1% plantations, 0.6% thicket, 0.4% grassland.

#### **Conservation Status and Threat:**

**Red Data List Status:** Near Threatened A2c, but off the Peninsula Endangered A4c.

**Occurrence** (Fynbos): 2 950 km<sup>2</sup> with 31% conserved and 41% lost; **Occupancy:** 761 km<sup>2</sup> with 40% conserved and 24% lost. **Fragmentation index:** 14%.

**Nature Reserves** (3150 records): 76% in nature reserves - well conserved.

**Habitat destruction** (3087 records): 95% extensive natural habitat, 2% islands, 2% naturally linear habitats, 0.5% road verges, 0.3% corridors, 0.2% naturally fragmented habitats, 0.1% patches.

**Alien Invasive Species** (3047 records): 39% Fabaceae (chiefly alien *Acacia*), 38% none, 17% *Pinus*, 4% *Hakea*, 2% Myrtaceae, 0.2% other aliens, 0.1% annual alien grasses.

**Alien Density** (3040 records): 38% alien-free, 46% sparse, 12% abundant, 3% dense, 0.7% impenetrable.

#### **Cultivation & Utilization:**

**Picking** (1934 records): 100% no sign of picking, 0.1% lightly picked, 0.1% severely picked.

**Cultivation Status:** Plantings - 40 records (1%), Escapes - 2 records (0.06%).

**Witch's Broom Infestation:** 1 records (0.03%).

#### **Atlasers Notes:**

*Age to flowering:*

Flowered for first time in 1991 - burnt 1983: I have watched seedlings since then (YDA92060801);

*Fire survival:*

Vegetation moribund: very good recruitment (AGR92022604); Occasional survivors among rocks, but majority of large specimens are dead - burnt twice in last 3 years (AKS93042205); About 10% of adult plants survived (PVR92070408); Some old plants have died - senescence? (PVR93053002); Veld looks very old more dead plants (PVR93053006); Must have been a very hot fire all adults plants killed except one protected by rocks (PVR94080403);

No seedlings observable yet following the fire in march 1995 (PVR95052405);

*Damage:*

Damage by baboons quite bad (APE93041801); Baboons eating flowers (SAS97120601); A Lot Of plants Have Recently Been Felled In A Wide Firebreak (PVR97022601);

*Growth:*

Much new growth on bushes that had no or few flowers (NSC94100601);

*Mortality (non-fire):*

Few dead (AGR99071810+11); One of two plants has died (AGRY0090201); Several dead plants (AGRY1080903); Lots of dead plants (drought deaths) (AGRY1080904); About 2/3 plants dead in some localized patches (shallower soil than the normal rocky areas they like?) no obvious difference from *M. fimbriifolius* (AGRY4041105); Many dead on lower slopes ca 30% of the population (AKS92080401); Also some dead plants (AKS93042203); Half of one dead! (AMMY0030801, NGF99081502); Many old dead plants -very few replacements noted (APE92051006); Most plants in poor shape (CVV95081302); Numerous large dead plants (CVV95121405); Showing signs of dieing back - possibly drought related (NGFY0112603); Some young plants 10-15cm high dying of drought (WIJ94040402);

*Pollination:*

Argentine Ants and black beetle (OGM93010101); Carpenter Bee about 20mm long with prominent yellowish thorax and abdomen (WEL94103002); Orange-breasted Sunbird sipping at plants - no flowers at all but dew on leaves (SMR99043001);

*Distribution:*

The plants grow on the contact of sandstone & limestone (CVV94041302); *M. fimbriifolius* more prevalent relative to *L. Cono* on higher ground (TLE94061109); *L. Cono* replaces *M. fimbriifolius* (TLE96030304);

**Confusing Species:** New growth caused much confusion with the type subspecies. Records of identification queries = 55. Records of corrected identification queries = 43.

**Variation and Taxonomy:** No variation noted.

**Distribution:** Add.

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*Leucospermum conocarpodendron* subsp. *conocarpodendron* (L.) Buek. 1753,  
1874

**Grey Tree Pincushion**  
*Vaalkreupelhout*

**Other Common Names:** Grey-tree Pincushion, Hairy Tree Pincushion, *Mardi Gras Ribbons*.

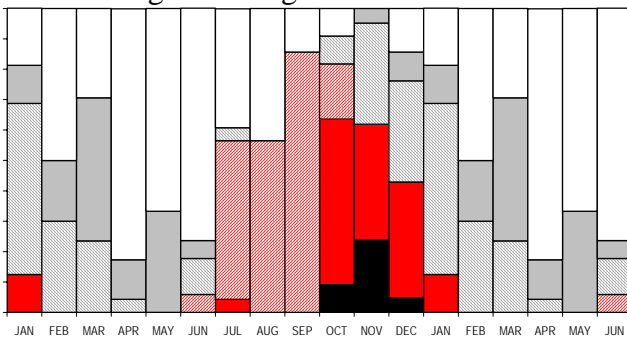
**Other Scientific Names:** *conocarpum* (Thunb) 1781, *crassicaule* Salisb. ex Knight 1809, *macowanii* Gand. 1901, *tortuosa* Salisb. 1796.

**219 Records**

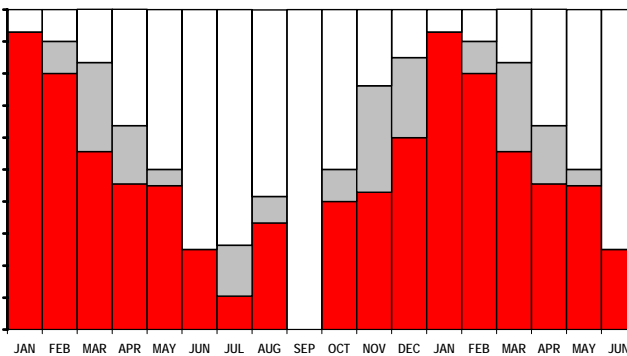
**Population** (215 records): 0.5% Abundant, 35% Common, 51% Frequent, 13% Rare, 0.9% Extinct.

**Dispersion** (197 records): 74% variable, 19% clumped, 6% widespread, 2% evenly distributed.

**Flowering** (210 records with: Jan 16, Feb 10, Mar 17, Apr 23, May 21, Jun 17, Jul 23, Aug 23, Sep 7, Oct 11, Nov 21, Dec 21): Buds from Jul to Sep; Flowering from Oct to Dec; Peak Flowering from Nov; Over from Nov to Mar; Fruit from Jan Feb to Mar and May; Nothing from Feb to Aug. Peak levels at 95% in Nov. Historically recorded as flowering from Aug to Dec.



**Growth** (200 records with: Jan 14, Feb 10, Mar 18, Apr 22, May 20, Jun 16, Jul 19, Aug 24, Sep 6, Oct 10, Nov 21, Dec 20): Much from Oct to Jun and Aug; Rare from Mar and Nov to Dec; None from Apr to Nov. Peak levels at 93% in Jan.

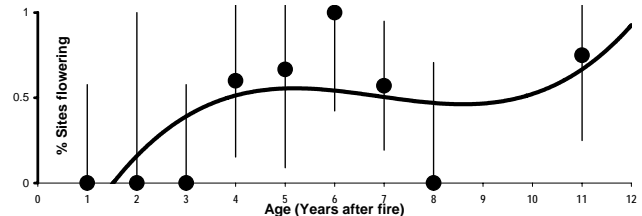


**Seedlings** (72 records): Absent in 94%; fewer seedlings than prefire adults in 1 case, and more in 1 case. Seedlings found in Nov (2).

**Fire Survival** (14 records): 50% resprouted from aerial trunks, 43% escaped fires in fire-

safe areas, 7% eliminated from the area by fires.

**Age to first flowering:** First flowers recorded at 4 years, 50% estimated at 3-4 years, and 100% recorded only for low sample sizes.



**Height** (216 records): 12% 0.2-1 m tall, 60% 1-2 m tall, 27% 2-5 m tall, 0.9% taller than 5 m.

**Pollinators** (2 records): 50% bees or wasps, 50% none observed.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (200

records): 60% coastal - less than 2 km from coast.

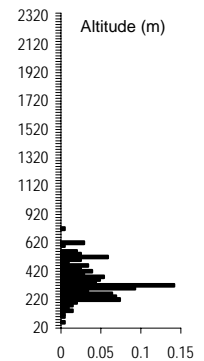
**Altitude** (200 records): 40 - 720 m; 240 *lq* - 320 *med* - 320 *uq*m.

**Landform** (198 records):

81% deep soil, 12% shallow soil, 8% rocky outcrops.

**Slope** (198 records): 62% steep incline, 34% gentle incline, 4% cliff, 0.5% hill top.

**Aspect** (198 records): 43% West, 25% North, 16% East, 16% South.



**Soil Type** (198 records):

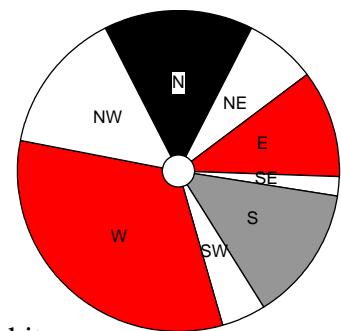
56% sandy, 20% loamy, 15% gravelly, 5% clayey, 4% rocky.

**Soil Colour** (197 records):

69% brown, 18% grey, 7% orange, 3% white, 2% yellow, 1% red.

**Geology** (194 records): 61% sandstone, 26% granite, 13% shale.

**Vegetation** (198 records): 97% shrubland, 1% thicket, 0.5% grassland, 0.5% forest, 0.5% plantations.



**Conservation Status and Threat:**

**Red Data List Status:** Vulnerable

B1a(ii)b(i,ii,iii,iv,v) + 2a(ii)b(i,ii,iii,iv,v).

Occurrence (Fynbos): 52 km<sup>2</sup> with 75% conserved and 18% lost; Occupancy: 60 km<sup>2</sup> with 56% conserved and 27% lost. Fragmentation index: 88%.

**Nature Reserves** (200 records): 89% in nature reserves - well conserved.

**Habitat destruction** (196 records):  
95% extensive natural habitat, 4% islands,  
1% naturally linear habitats, 0.5% naturally  
fragmented habitats.

**Alien Invasive Species** (188 records):  
34% *Pinus*, 33% Fabaceae (chiefly alien  
*Acacia*), 19% none, 9% Myrtaceae,  
5% *Hakea*, 0.5% other aliens.

**Alien Density** (188 records): 19% alien-free,  
60% sparse, 16% abundant, 5% dense.

**Cultivation & Utilization:**

**Picking** (106 records): 99% no sign of picking,  
0.9% lightly picked.

**Cultivation Status:** Plantings - 4 records (2%).

**Atlassers Notes:**

Cape Sugarbirds present (AKS93042901).

**Confusing Species:** Occasionally mistaken for  
*L. conocarpodendron subsp. viridum*.

Records of identification queries = 34.

Records of corrected identification queries = 16.

**Variation and Taxonomy:** No variation noted.

**Distribution:** Add.

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## *Leucospermum glabrum* Phill. 1910 Outeniqua Pincushion

**Other Common Names:** Ember Pincushion, *Mardi Gras Petite*.

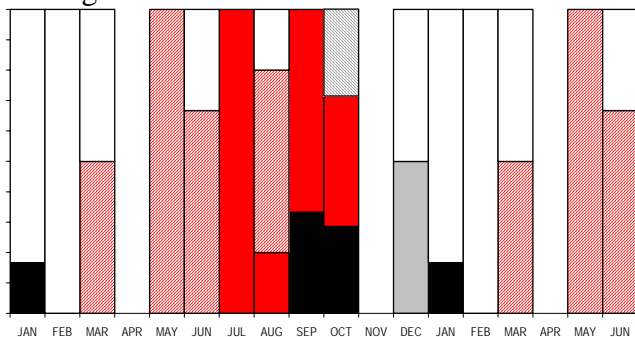
**Other Scientific Names:** *None*.

### 38 Records

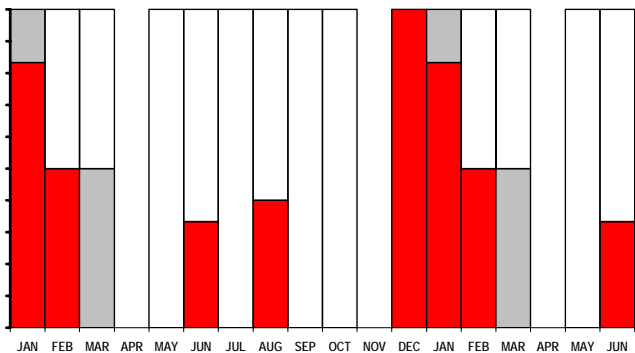
**Population** (30 records): 10% Common, 50% Frequent, 40% Rare.

**Dispersion** (24 records): 71% clumped, 25% variable, 4% evenly distributed.

**Flowering** (36 records with: Jan 6, Feb 2, Mar 2, Apr 0, May 2, Jun 3, Jul 1, Aug 5, Sep 6, Oct 7, Nov 0, Dec 2): Buds from Mar to Jun and Aug; Flowering from Jul to Oct; Over from Oct; Fruit from Dec; Nothing from Dec to Mar and Jun. Peak levels unreliable at 100% in Sep. Historically recorded as flowering from Aug to Oct.



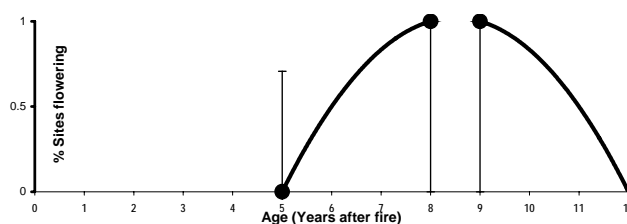
**Growth** (35 records with: Jan 6, Feb 2, Mar 2, Apr 0, May 1, Jun 3, Jul 1, Aug 5, Sep 6, Oct 7, Nov 0, Dec 2): Much from Dec to Feb and Jun and Aug; Rare from Mar; None from Feb to Oct. Peak levels unreliable at 100% in Dec to Jan.



**Seedlings** (14 records): Absent in 86%; fewer seedlings than prefire adults in 1 case. Seedlings found in Feb.

**Fire Survival** (4 records): 75% survived by seedlings only, 25% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 8 years, 50% estimated at 6-7 years, and 100% recorded at 8 years.



**Height** (37 records): 3% 0-0.2 m tall, 35% 0.2-1 m tall, 54% 1-2 m tall, 8% 2-5 m tall.

**Pollinators** (1 record): 100% birds.

**Detailed Pollinators** (1 record): Cape Sugarbird.

### Habitat:

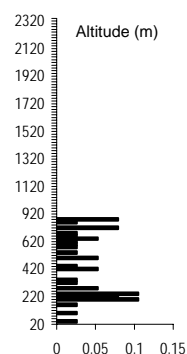
**Distance to Ocean** (30 records): 90% inland - further than 2 km from coast.

**Altitude** (30 records): 80 - 780 m; 220 *lq* - 420 *med* - 540 *uq*m.

**Landform** (30 records): 83% deep soil, 17% shallow soil.

**Slope** (30 records): 47% steep incline, 43% gentle incline, 7% hill top, 3% platform.

**Aspect** (30 records): 40% South, 27% North, 22% East, 12% West.

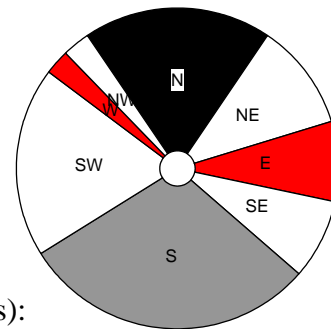


**Soil Type** (30 records): 47% loamy, 37% sandy, 17% peaty.

**Soil Colour** (30 records): 40% brown, 37% black, 23% grey.

**Geology** (29 records): 100% sandstone.

**Vegetation** (30 records): 100% shrubland.



### Conservation Status and Threat:

**Red Data List Status:** Endangered  
B1a(i)b(iii,v)c(iv) + 2a(i)b(iii,v)c(iv), C2a(i).  
Occurrence (Fynbos): 1 005 km<sup>2</sup> with 10% conserved and 26% lost; Occupancy: 54 km<sup>2</sup> with 38% conserved and 9% lost.  
Fragmentation index: 4%.

**Nature Reserves** (30 records): 70% in nature reserves - well conserved.

**Habitat destruction** (29 records): 86% extensive natural habitat, 7% islands, 7% corridors.

**Alien Invasive Species** (30 records): 47% *Pinus*, 20% Fabaceae (chiefly alien *Acacia*), 20% none, 13% *Hakea*.

**Alien Density** (30 records): 20% alien-free, 63% sparse, 17% abundant.

### Cultivation & Utilization:

**Picking** (24 records): 92% no sign of picking,  
8% lightly picked.

**Cultivation Status:** Plantings - 8 records  
(21%).

**Atlassers Notes:**

11 Plants (WIJ95032509).

**Confusing Species:** None noted, although  
some *L. cuneiforme* were identified as *L.*  
*glabrum*.

Records of identification queries = 4.

**Variation and Taxonomy:** No variation noted.

**Distribution:** Add.

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# *Leucospermum pluridens* Rourke 1972

## Robinson Pincushion

**Other Common Names:** Outeniqua Pincushion.

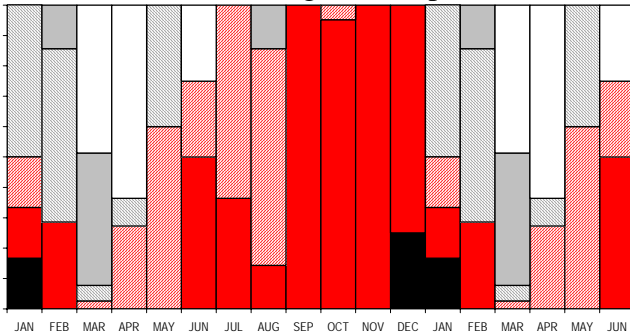
**Other Scientific Names:** *None.*

### 125 Records

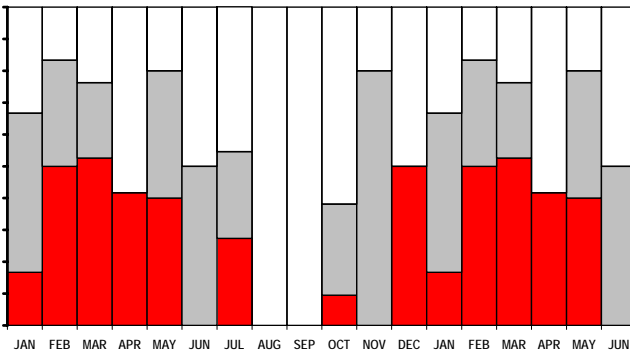
**Population** (124 records): 18% Common, 62% Frequent, 20% Rare.

**Dispersion** (118 records): 56% variable, 36% clumped, 6% evenly distributed, 3% widespread.

**Flowering** (123 records with: Jan 6, Feb 7, Mar 39, Apr 11, May 5, Jun 4, Jul 11, Aug 7, Sep 3, Oct 21, Nov 5, Dec 4): Buds from Apr to Aug; Flowering from Feb, Jun to Jul and Sep to Dec; Peak Flowering from Dec; Over from Jan to Feb and May; Fruit from Mar; Nothing from Mar to Apr and Jun. Peak levels at 100% in Sep to Jan. Historically recorded as flowering from Sep to Dec.



**Growth** (122 records with: Jan 6, Feb 6, Mar 38, Apr 12, May 5, Jun 4, Jul 11, Aug 7, Sep 3, Oct 21, Nov 5, Dec 4): Much from Feb to May, Jul and Dec; Rare from Jan to Mar and May to Jul and Oct to Nov; None from Mar to Jan. Peak levels at 83% in Feb.



**Seedlings** (56 records): Absent in 89%: fewer seedlings than prefire adults in 3 cases. Seedlings found in Jan, Jun and Dec.

**Fire Survival** (9 records): 44% escaped fires in fire-safe areas, 33% survived by seedlings only, 22% eliminated from the area by fires.

**Age to first flowering:** First flowers recorded at 3 years, 50% estimated at 3 years, and 100% recorded at 3 years.



**Height** (124 records): 27% 0.2-1 m tall, 69% 1-2 m tall, 4% 2-5 m tall.

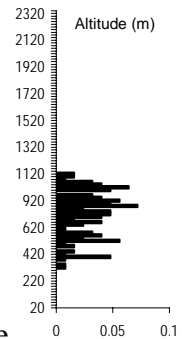
**Pollinators** (14 records): 71% birds, 21% bees or wasps, 7% flies.

**Detailed Pollinators** (9 records): Orange-breasted Sunbird (4), Cape Sugarbird (3), Malachite Sunbird (2).

### Habitat:

**Distance to Ocean** (125 records): 100% inland - further than 2 km from coast.

**Altitude** (125 records): 300 - 1020 m; 560 *lq* - 740 *med* - 820 *uq*m.



**Landform** (125 records): 48% deep soil, 45% shallow soil, 7% rocky outcrops.

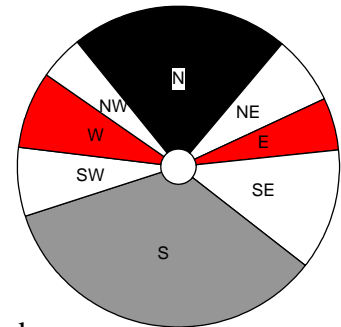
**Slope** (125 records): 46% gentle incline, 42% steep incline, 7% hill top, 3% platform, 0.8% cliff.

**Aspect** (114 records): 45% South, 28% North, 14% East, 13% West.

### Soil Type

(125 records): 67% sandy, 14% loamy, 13% gravelly, 4% rocky, 2% clayey.

**Soil Colour** (124 records): 49% grey, 42% brown, 4% orange, 3% red, 2% white.



**Geology** (125 records): 95% sandstone, 2% conglomerate, 2% shale.

**Vegetation** (125 records): 100% shrubland.

### Conservation Status and Threat:

**Red Data List Status:** Near Threatened B1a(i)b(v).

**Occurrence** (Fynbos): 526 km<sup>2</sup> with 27% conserved and 5% lost; Occupancy: 140 km<sup>2</sup> with 34% conserved and 2% lost. Fragmentation index: 18%.

**Nature Reserves** (125 records): 32% in nature reserves.

**Habitat destruction** (124 records): 97% extensive natural habitat, 2% islands, 2% naturally linear habitats.

**Alien Invasive Species** (122 records):

84% none, 15% *Hakea*, 0.8% Fabaceae  
(chiefly alien *Acacia*).

**Alien Density** (122 records): 84% alien-free,  
15% sparse, 0.8% impenetrable.

**Cultivation & Utilization:**

**Picking** (103 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

About 30 plants (DOA95041001);  
Here it is only on the south facing slopes?  
(AGR98032207); On barren gravel slope  
(AWA95103105).

**Confusing Species:** Confused with *L.*  
*cuneiforme* (which resprouts), *L. winteri* and  
*L. glabrum*.

Records of identification queries = 3.

Records of corrected identification queries = 2.

**Variation and Taxonomy:** No variation noted.

**Distribution:** Add.

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*Leucospermum erubescens* Rourke 1972  
**Oudtshoorn Pincushion**  
*Oranjevlamspeldekussing*

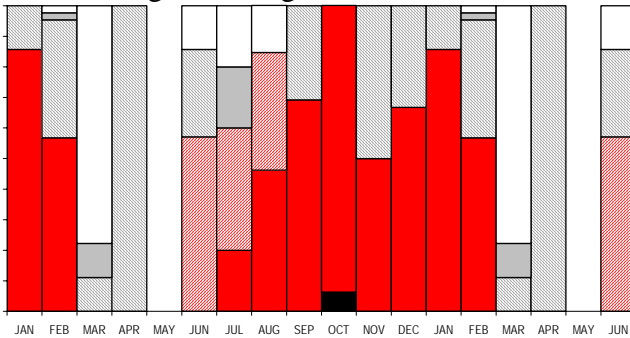
**Other Common Names:** Orange-flame Pincushion, *Mardi Gras Tricolor*.  
**Other Scientific Names:** *attenuatum* var. *ambiguum* Meisn. 1856.

**121 Records**

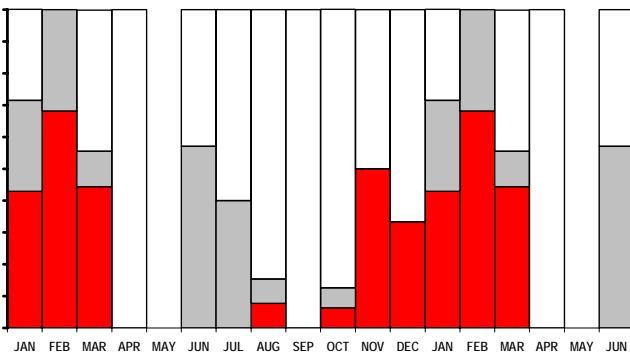
**Population** (119 records): 19% Common, 69% Frequent, 12% Rare.

**Dispersion** (114 records): 53% clumped, 45% variable, 2% widespread, 0.9% evenly distributed.

**Flowering** (120 records with: Jan 7, Feb 44, Mar 9, Apr 1, May 0, Jun 7, Jul 5, Aug 13, Sep 13, Oct 16, Nov 2, Dec 3): Buds from Jun to Aug; Flowering from Jul to Feb; Peak Flowering not significant; Over from Feb, Apr to Jun, Sep and Nov to Dec; Fruit from Jul; Nothing from Mar. Peak levels at 100% from Sep to Jan. Historically recorded as flowering from Aug to Jan.



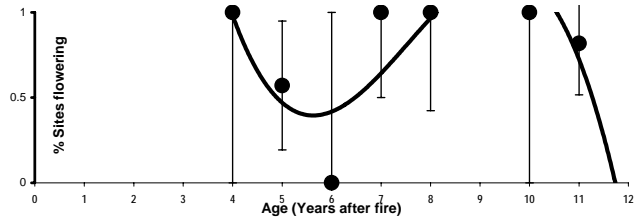
**Growth** (120 records with: Jan 7, Feb 44, Mar 9, Apr 1, May 0, Jun 7, Jul 5, Aug 13, Sep 13, Oct 16, Nov 2, Dec 3): Much from Nov to Mar; Rare from Jan to Feb and Jun to Jul; None from Mar to Jan. Peak levels at 100% in Feb.



**Seedlings** (62 records): Absent in 94%: fewer seedlings than prefire adults in 1 case, and more in 1 case. Seedlings found in Feb and Aug.

**Fire Survival** (3 records): 67% survived by seedlings only, 33% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 4 years, 50% estimated at 4-5 years, and 100% recorded at 7 years.



**Height** (118 records): 0.8% 0-0.2 m tall, 30% 0.2-1 m tall, 67% 1-2 m tall, 3% 2-5 m tall.

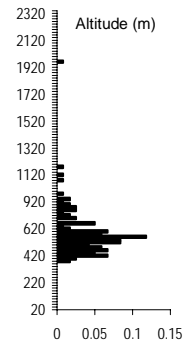
**Pollinators** : No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (119 records): 100% inland - further than 2 km from coast.

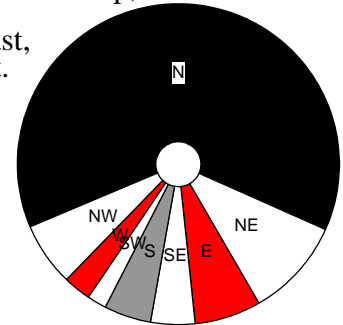
**Altitude** (119 records): 360 - 1860 m; 460 *lq* - 540 *med* - 560 *uq*m.



**Landform** (118 records): 61% deep soil, 21% shallow soil, 17% rocky outcrops, 0.8% swamp.

**Slope** (118 records): 60% gentle incline, 25% steep incline, 7% platform, 3% valley bottom, 3% hill top, 2% cliff.

**Aspect** (108 records): 72% North, 14% East, 8% South, 6% West.



**Soil Type** (117 records): 50% sandy, 19% loamy, 17% gravelly, 15% rocky.

**Soil Colour** (117 records): 64% grey, 23% brown, 7% white, 4% yellow, 2% orange.

**Geology** (117 records): 98% sandstone, 2% Tertiary sands.

**Vegetation** (117 records): 97% shrubland, 3% grassland.

**Conservation Status and Threat:**

**Red Data List Status:** Least Concern.

**Occurrence** (Fynbos): 352 km<sup>2</sup> with 30% conserved and 3% lost; **Occupancy:** 105 km<sup>2</sup> with 18% conserved and 10% lost. **Fragmentation index:** 14%.

**Nature Reserves** (119 records): 15% in nature reserves - inadequately conserved.

**Habitat destruction** (117 records): 96% extensive natural habitat, 3% islands, 0.9% road verges, 0.9% naturally linear habitats.

**Alien Invasive Species** (115 records): 79% none, 10% *Hakea*, 9% Fabaceae (chiefly alien *Acacia*), 3% *Pinus*.

**Alien Density** (114 records): 80% alien-free,  
17% sparse, 4% abundant.

**Cultivation & Utilization:**

**Picking** (81 records): 90% no sign of picking,  
9% lightly picked, 1% severely picked.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Along river beds and damp spots  
(VJK93022801);

**Confusing Species:** Misidentified in pre-  
flowering plants as *L. oleifolium* – which is  
out of range.

Records of identification queries = 8.

Records of corrected identification queries = 3.

**Variation and Taxonomy:** No variation noted.

**Distribution:** Add.

INCLUDEPICTURE

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# *Leucospermum fulgens* Rourke 1972

## Potberg Pincushion

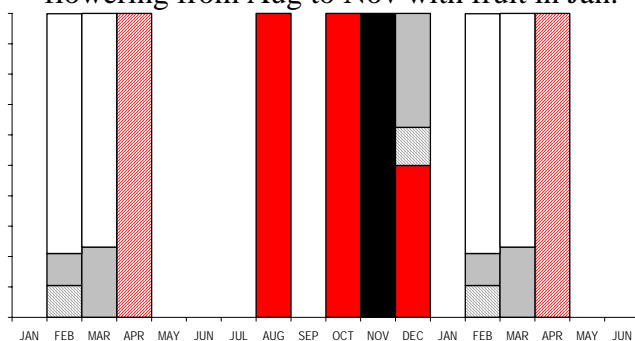
**Other Common Names:** None known.  
**Other Scientific Names:** *None*.

### 53 Records

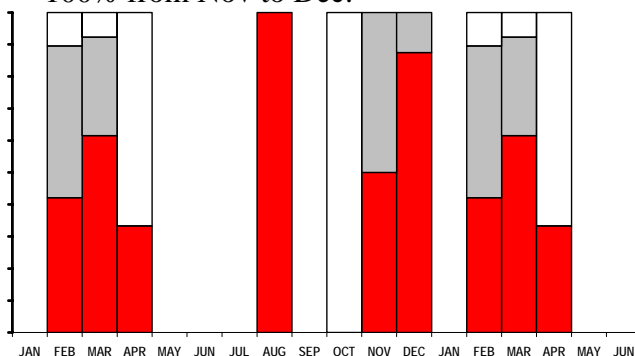
**Population** (53 records): 2% Abundant, 21% Common, 57% Frequent, 21% Rare.

**Dispersion** (49 records): 67% variable, 27% clumped, 4% evenly distributed, 2% widespread.

**Flowering** (53 records with: Jan 0, Feb 19, Mar 13, Apr 3, May 0, Jun 0, Jul 0, Aug 1, Sep 0, Oct 7, Nov 2, Dec 8): Buds from Apr; Flowering from Aug to Oct and Dec; Peak Flowering from Nov; Over not significant; Fruit from Mar and Dec; Nothing from Feb to Mar. Peak levels unreliable at 100% from Aug to Oct. Historically recorded as flowering from Aug to Nov with fruit in Jan.



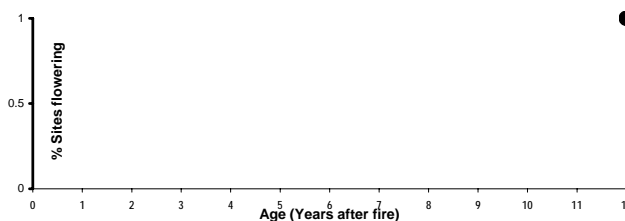
**Growth** (53 records with: Jan 0, Feb 19, Mar 13, Apr 3, May 0, Jun 0, Jul 0, Aug 1, Sep 0, Oct 7, Nov 2, Dec 8): Much from Nov to Apr; Rare from Feb to Mar and Nov; None from Apr to Oct. Peak levels unreliable at 100% from Nov to Dec.



**Seedlings** (25 records): All without any seedlings present.

**Fire Survival** (1 record): 100% resprouted from aerial trunks.

**Age to first flowering:** First flowers recorded at 100% at 12 years, no data for younger veld.



**Height** (52 records): 10% 0.2-1 m tall, 63% 1-2 m tall, 27% 2-5 m tall.

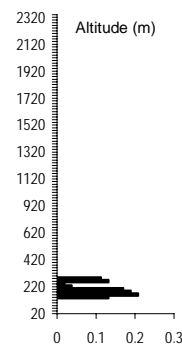
**Pollinators** : No data.

**Detailed Pollinators:** No additional data.

### Habitat:

**Distance to Ocean** (53 records): 91% inland - further than 2 km from coast.

**Altitude** (53 records): 120 - 280 m; 140<sub>lq</sub> - 160<sub>med</sub> - 160<sub>uq</sub>m.

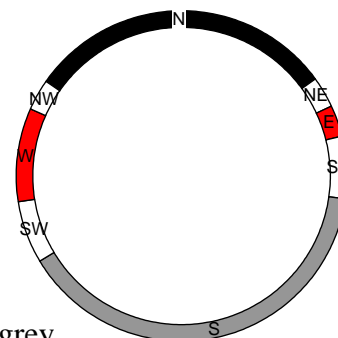


**Landform** (53 records): 98% deep soil, 2% shallow soil.

**Slope** (53 records): 34% gentle incline, 28% valley bottom, 21% platform, 9% hill top, 8% steep incline.

**Aspect** (33 records):

45% South,  
33% North,  
14% West,  
8% East.



**Soil Type** (52 records): 90% sandy, 10% loamy.

**Soil Colour** (52 records):

44% brown, 37% grey, 15% white, 2% yellow, 2% orange.

**Geology** (47 records): 45% Tertiary sands, 26% sandstone, 26% limestone, 4% shale.

**Vegetation** (53 records): 98% shrubland, 2% wooded grassland.

### Conservation Status and Threat:

**Red Data List Status:** Critically Endangered B1a(ii)b(iii)c(iv).

Occurrence (Fynbos): 19 km<sup>2</sup> with 100% conserved and 17% lost; Occupancy: 25 km<sup>2</sup> with 100% conserved and 11% lost. Fragmentation index: meaningless.

**Nature Reserves** (53 records): 100% in nature reserves - well conserved.

**Habitat destruction** (53 records): 62% extensive natural habitat, 32% naturally linear habitats, 4% road verges, 2% islands.

**Alien Invasive Species** (52 records): 79% Fabaceae (chiefly alien *Acacia*), 12% none, 8% Myrtaceae, 2% *Pinus*.

**Alien Density** (52 records): 12% alien-free, 56% sparse, 21% abundant, 12% dense.

### Cultivation & Utilization:

**Picking** (35 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Atlassed as *L. truncatum* but specimens are too big - either large form of this or a small form of *L. fulgens* - what about a small *L. praecox*? More work needed here! (AKS94122006-8); Both *L. truncatum* and *L. fulgens* (really more of an intermediate between the two) present - area should be carefully worked (IVM98022807);

Record accepted as intermediate between *L. truncatum* and *L. fulgens* - this area needs working on (JAT95100606);

Needs to be investigated further. Although the plot was on limestone it was felt that the plants with their big leaves were *L. fulgens* as *L. truncatum* elsewhere on the limestone ridge had smaller leaves (NGF98022808);

**Confusing Species:** Plants on sandy patches within the limestone were intermediate

between *L. truncatum* and *L. fulgens*. These have been atlassed as *L. fulgens*. These approach the small form of *L. praecox* (cf).  
Records of identification queries = 11.  
Records of corrected identification queries = 5.

**Variation and Taxonomy:** Other than the small form on the sands within limestone, no variation was noted.

**Distribution:** Nowhere was it dense, as described by Rourke: "very dense local stands" ... "constitute the major component of the vegetation cover". It probably occurs in far greater numbers in younger veld, but as most of the veld in its range was over 12 years old it might have died back.

Add.

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***Leucospermum muirii* Phill. 1910**  
**Albertinia Pincushion**  
*Bloukoolhout*

**Other Common Names:** Baby Pincushion, Muir's Pincushion, Small Pincushion, *Bloukool*, *Dooiekoolhout*, *Droevlakteluisie*, *Luisiesboom*, *Luisiesbos*.

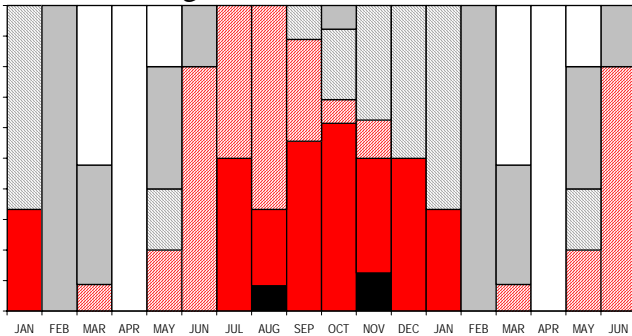
**Other Scientific Names:** *None*.

**117 Records**

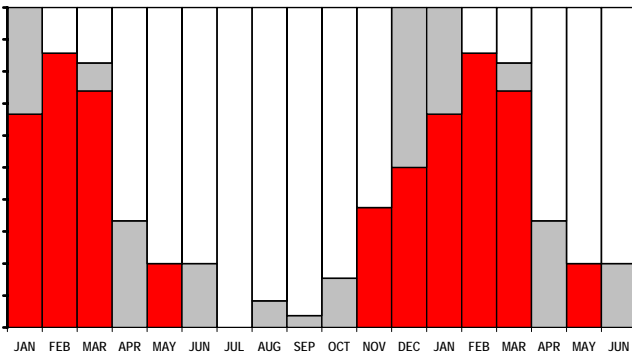
**Population** (110 records): 36% Common, 55% Frequent, 8% Rare.

**Dispersion** (105 records): 84% variable, 12% clumped, 3% widespread, 1.0% evenly distributed.

**Flowering** (114 records with: Jan 3, Feb 7, Mar 23, Apr 3, May 5, Jun 5, Jul 6, Aug 12, Sep 27, Oct 13, Nov 8, Dec 2): Buds from May to Sep; Flowering from Jul to Jan; Peak Flowering not significant; Over from Oct to Jan; Fruit from Feb to Mar and May to Jun; Nothing from Mar to May. Peak levels at 100% from Jul to Jan. Historically recorded as flowering from Jul to Oct.



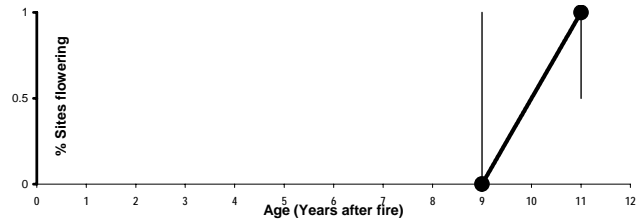
**Growth** (114 records with: Jan 3, Feb 7, Mar 23, Apr 3, May 5, Jun 5, Jul 6, Aug 12, Sep 27, Oct 13, Nov 8, Dec 2): Much from Nov to Mar; Rare from Dec to Jan and Apr; None from Apr to Nov. Peak levels at 100% from Dec to Jan.



**Seedlings** (33 records): All without any seedlings present.

**Fire Survival** (1 record): 100% survived by seedlings only.

**Age to first flowering:** First flowers recorded at 3 years, 50% estimated at 3 years, and 100% recorded at 11 years.



**Height** (114 records): 47% 0.2-1 m tall, 53% 1-2 m tall.

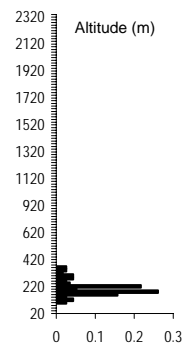
**Pollinators** (3 records): 67% bees or wasps, 33% beetles.

**Detailed Pollinators** (2 records): Monkey Beetle, Honey Bee.

**Habitat:**

**Distance to Ocean** (109 records): 99% inland - further than 2 km from coast.

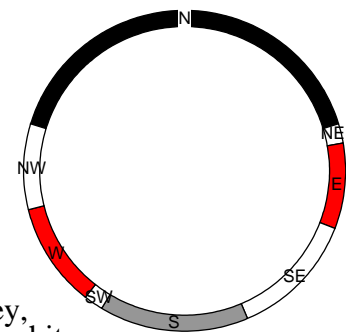
**Altitude** (109 records): 80 - 360 m; 140<sub>lq</sub> - 180<sub>med</sub> - 180<sub>uq</sub> m.



**Landform** (109 records): 99% deep soil, 0.9% shallow soil.

**Slope** (109 records): 64% platform, 27% gentle incline, 5% hill top, 3% valley bottom, 2% dunes.

**Aspect** (41 records): 51% North, 22% South, 18% West, 9% East.



**Soil Type** (109 records): 94% sandy, 6% loamy.

**Soil Colour** (109 records): 41% grey, 21% brown, 21% white, 7% orange, 6% yellow, 3% red.

**Geology** (103 records): 69% Tertiary sands, 24% sandstone, 6% silcrete or ferricrete, 1.0% limestone.

**Vegetation** (109 records): 94% shrubland, 2% plantations, 0.9% grassland, 0.9% thicket, 0.9% agricultural lands, 0.9% suburban.

**Conservation Status and Threat:**

**Red Data List Status:** Endangered A4c.

**Occurrence** (Fynbos): 169 km<sup>2</sup> with 0% conserved and 22% lost; **Occupancy:** 99 km<sup>2</sup> with 0% conserved and 26% lost. **Fragmentation index:** 49%.

**Nature Reserves** (109 records): 0% in nature reserves - unconserved.

**Habitat destruction** (107 records): 60% extensive natural habitat, 25% islands,

14% road verges, 0.9% naturally linear habitats.

**Alien Invasive Species** (109 records):  
50% Fabaceae (chiefly alien *Acacia*),  
31% *Pinus*, 12% none, 6% Myrtaceae,  
0.9% other aliens.

**Alien Density** (109 records): 12% alien-free,  
57% sparse, 14% abundant, 17% dense.

**Cultivation & Utilization:**

**Picking** (80 records): 99% no sign of picking,  
1% severely picked.

**Cultivation Status:** Plantings - 5 records (4%),  
Escapes - 2 records (2%).

**Atlassers Notes:**

This is where Tertiary Sand and Sandstone mix,  
hence *L. muirii* and *L. cuneiforme* occur  
together (DOAY2091517);

**Confusing Species:** Occasionally confused  
with *L. truncatum* and *L. praecox*, but its  
flowerheads are smaller than both. Incorrect  
coding as *L. mundii* was also noted.

Records of identification queries = 9.

Records of corrected identification queries = 5.

**Variation and Taxonomy:** No variation noted.

**Distribution:** Add.

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***Leucospermum praecox* Rourke 1972**  
**Mossel Bay Pincushion**  
*Rooivlamspeldekussing*

**Other Common Names:** Crimson-flame Pincushion, Large-tufted Pincushion, Still Bay Pincushion, *Luisbos*, *Suikerbos*, *Patricia*.

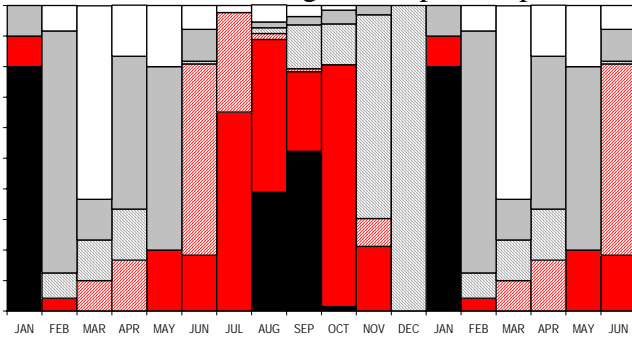
**Other Scientific Names:** *None*.

**569 Records**

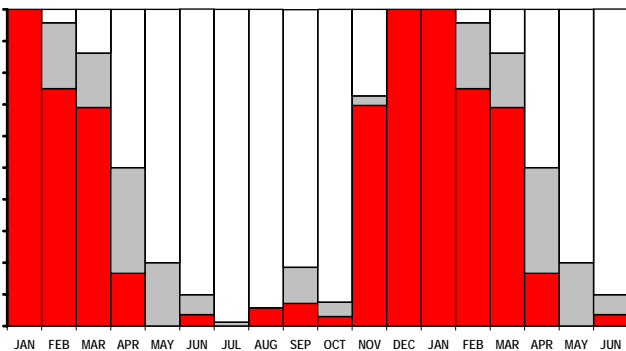
**Population** (562 records): 4% Abundant, 52% Common, 35% Frequent, 10% Rare.

**Dispersion** (523 records): 69% variable, 16% widespread, 13% clumped, 2% evenly distributed.

**Flowering** (543 records with: Jan 10, Feb 24, Mar 30, Apr 6, May 5, Jun 115, Jul 86, Aug 54, Sep 111, Oct 67, Nov 33, Dec 2): Buds from Jun to Jul; Flowering from May and Jul to Nov; Peak Flowering from Jan and Aug to Sep; Over from Nov to Dec; Fruit from Feb and Apr to May; Nothing from Mar and May. Peak levels at 98% in Jul. Historically recorded as flowering from Apr to Sep.



**Growth** (524 records with: Jan 10, Feb 24, Mar 29, Apr 6, May 5, Jun 112, Jul 86, Aug 53, Sep 97, Oct 67, Nov 33, Dec 2): Much from Nov to Mar; Rare from Feb and Apr to May; None from Apr to Nov. Peak levels at 100% from Dec to Jan.



**Seedlings** (201 records): Absent in 97%; more seedlings than prefire adults in 3 cases. Seedlings found in Aug (2) and Dec.

**Fire Survival** (7 records): 71% survived by seedlings only, 29% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 3 years, 50% estimated at 4-5 years, and 100% recorded at 7 years.



**Height** (544 records): 1% 0-0.2 m tall, 17% 0.2-1 m tall, 71% 1-2 m tall, 10% 2-5 m tall.

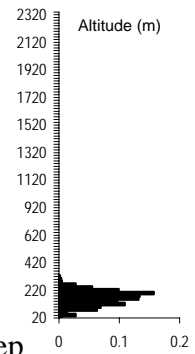
**Pollinators** (20 records): 85% birds, 5% mammals, 5% bees or wasps, 5% beetles.

**Detailed Pollinators** (20 records): Cape Sugarbird (14), Orange-breasted Sunbird (2), Malachite Sunbird (2), Great Protea Beetle, Cape Weaver.

**Habitat:**

**Distance to Ocean** (563 records): 85% inland - further than 2 km from coast.

**Altitude** (563 records): 20 - 320 m; 100<sub>lq</sub> - 160<sub>med</sub> - 160<sub>uq</sub>m.



**Landform** (557 records): 95% deep soil, 5% shallow soil, 0.4% rocky outcrops.

**Slope** (549 records): 49% gentle incline, 27% platform, 9% hill top, 8% valley bottom, 5% steep incline, 2% dunes.

**Aspect** (359 records): 43% South, 26% North, 20% East, 11% West.

**Soil Type** (538 records):

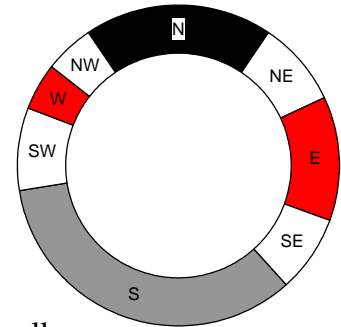
92% sandy, 6% loamy, 0.7% clayey, 0.4% gravelly, 0.2% rocky.

**Soil Colour** (532 records):

37% grey, 28% brown, 11% white, 10% yellow, 8% red, 6% orange, 0.2% black.

**Geology** (531 records): 52% Tertiary sands, 29% limestone, 18% sandstone, 0.9% shale, 0.6% silcrete or ferricrete.

**Vegetation** (541 records): 97% shrubland, 2% thicket, 0.9% agricultural lands, 0.2% grassland, 0.2% suburban.



**Conservation Status and Threat:**

**Red Data List Status:** Vulnerable A2c+3c.

**Occurrence** (Fynbos): 1 855 km<sup>2</sup> with 3% conserved and 22% lost; **Occupancy:** 599 km<sup>2</sup> with 6% conserved and 15% lost. **Fragmentation index:** 22%.

**Nature Reserves** (563 records): 22% in nature reserves.

**Habitat destruction** (529 records): 76% extensive natural habitat, 14% islands,

7% road verges, 2% naturally fragmented habitats, 0.8% naturally linear habitats.

**Alien Invasive Species** (534 records):

56% Fabaceae (chiefly alien *Acacia*),  
39% none, 4% *Pinus*, 0.9% Myrtaceae.

**Alien Density** (534 records): 39% alien-free,  
39% sparse, 12% abundant, 10% dense,  
0.6% impenetrable.

**Cultivation & Utilization:**

**Picking** (386 records): 100% no sign of picking.

**Cultivation Status:** Plantings - 6 records (1%).

**Atlassers Notes:**

Absolutely spectacularly beautiful (MEB99082503); This is *praecox* land and is to be seen to be believed now that the whole area is aflame - no wonder the Afrikaans folk called it *Rooi Vlamspeldekussing* (VJK96091901);

Locality covered densely with young plants - estimate two years old - not flowering yet: good rains last two years (JMS93120701);

Two magnificent plants revealed on a newly cleared building plot and by position not planted survivors in an urban settlement !

Fortunately recognized, appreciated and left alone by owners (DFJ99082803); Stressed and dying on top (WMPY0061812); Stressed and dying (WMPY0061815); Dying off (WMPY0061816);

*Rhodomys pumilio* seen visiting flowers and also eating ripening seed (AGR99092114);

**Confusing Species:** Regularly misidentified with *L. truncatum*. Odd errors with *L. muiirii* (which is much smaller) and *L. winterii* (which has similar shaped leaves but is totally different).

Records of identification queries = 14.

Records of corrected identification queries = 7.

**Variation and Taxonomy:** The western forms of this species are smaller and possibly grade with *L. truncatum*. These are treated as a separate form and mapped separately.

**Distribution:** Add.

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## *Leucospermum praecox* (small form)

### Witsand Pincushion

**Other Common Names:** None known.

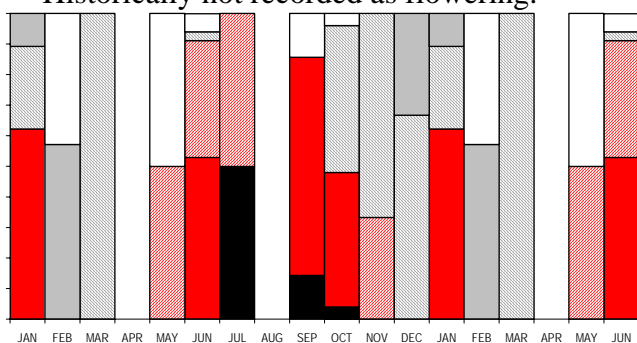
**Other Scientific Names:** *None*.

#### 135 Records

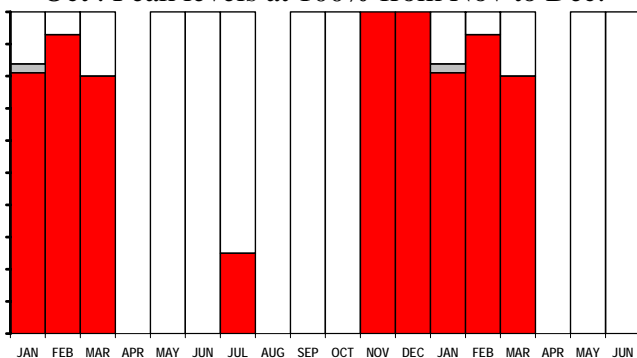
**Population** (135 records): 1% Abundant, 46% Common, 48% Frequent, 4% Rare.

**Dispersion** (133 records): 68% variable, 26% clumped, 5% widespread, 0.8% evenly distributed.

**Flowering** (134 records with: Jan 37, Feb 14, Mar 5, Apr 0, May 2, Jun 34, Jul 4, Aug 0, Sep 7, Oct 25, Nov 3, Dec 3): Buds from May to Jul and Nov; Flowering from Jan, Jun and Sep to Oct; Peak Flowering from Jul; Over from Oct to Jan and Mar; Fruit from Feb and Dec; Nothing from Feb and May. Peak levels unreliable at 100% in Jul. Historically not recorded as flowering.



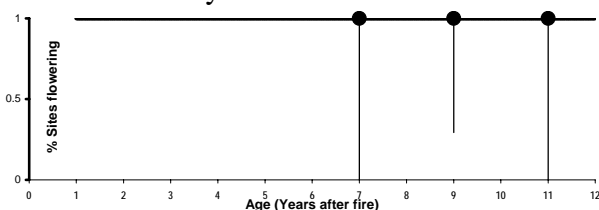
**Growth** (134 records with: Jan 37, Feb 14, Mar 5, Apr 0, May 2, Jun 34, Jul 4, Aug 0, Sep 7, Oct 25, Nov 3, Dec 3): Much from Nov to Mar; Rare not significant; None from Mar to Oct. Peak levels at 100% from Nov to Dec.



**Seedlings** (44 records): Absent in 95%; fewer seedlings than prefire adults in 1 case. Seedlings found in Oct.

**Fire Survival** (1 record): 100% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 100% at 7 years.



**Height** (135 records): 33% 0.2-1 m tall, 61% 1-2 m tall, 5% 2-5 m tall.

**Pollinators** (8 records): 88% birds, 13% bees or wasps.

**Detailed Pollinators** (5 records): Cape Sugarbird (3), Orange-breasted Sunbird, Honey Bee.

**Habitat:**

**Distance to Ocean** (135 records): 99% inland - further than 2 km from coast.

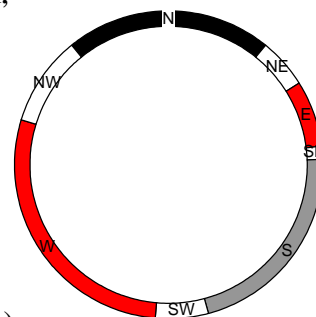
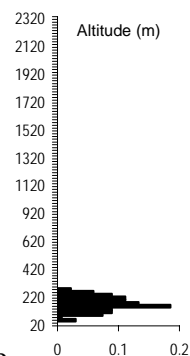
**Altitude** (135 records): 40 - 280 m; 120<sub>lq</sub> - 160<sub>med</sub> - 180<sub>uq</sub> m.

**Landform** (135 records): 93% deep soil, 7% shallow soil.

**Slope** (135 records): 40% gentle incline, 35% platform, 10% dunes, 10% hill top, 3% valley bottom, 2% steep incline.

**Aspect** (74 records):

36% West,  
29% North,  
25% South,  
10% East.



**Soil Type** (134 records): 94% sandy, 5% loamy, 0.7% clayey.

**Soil Colour** (128 records): 53% brown, 21% grey, 8% white, 6% yellow, 6% red, 5% orange.

**Geology** (132 records): 73% limestone, 19% Tertiary sands, 4% silcrete or ferricrete, 3% sandstone, 2% shale.

**Vegetation** (134 records): 97% shrubland, 2% agricultural lands, 0.7% thicket.

**Conservation Status and Threat:**

**Red Data List Status:** Least Concern.

Occurrence (Fynbos): 397 km<sup>2</sup> with 0% conserved and 11% lost; Occupancy: 142 km<sup>2</sup> with 0% conserved and 9% lost. Fragmentation index: 33%.

**Nature Reserves** (135 records): 0% in nature reserves - unconserved.

**Habitat destruction** (130 records): 83% extensive natural habitat, 12% islands, 3% road verges, 2% naturally fragmented habitats.

**Alien Invasive Species** (126 records): 71% Fabaceae (chiefly alien *Acacia*), 26% none, 2% *Pinus*, 0.8% other aliens.

**Alien Density** (126 records): 26% alien-free, 47% sparse, 20% abundant, 7% dense.

**Cultivation & Utilization:**

**Picking** (89 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Witch's Broom Infestation:** 1 record (0.7%).

**Atlasers Notes:** None.

**Confusing Species:** Intermediate between *L. truncatum* and *L. praecox* and was atlassed as both. A special trip delimited the eastern boundary of this form, but the western boundary might extend into the range of *L. fulgens*: this needs to be investigated further.  
Records of identification queries = 11.  
Records of corrected identification queries = 3.

**Variation and Taxonomy:** No variation noted.

**Distribution:** Add.

INCLUDEPICTURE

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MERGEFORMAT \d

*Leucospermum truncatum* (Buek. ex Meisn.) Rourke 1856, 1967  
**Limestone Pincushion**

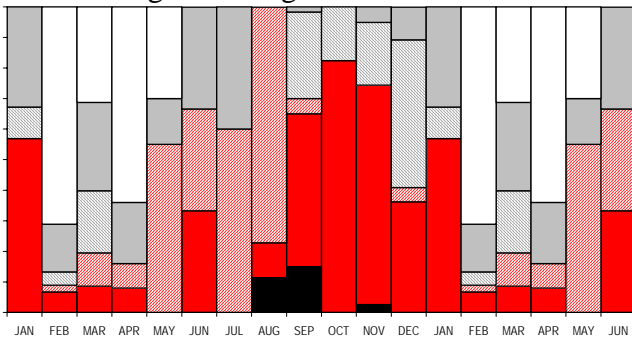
**Other Common Names:** *Waboom*.  
**Other Scientific Names:** *zeyheri* var *truncatum* Buek. ex Meisn. 1856.

**625 Records**

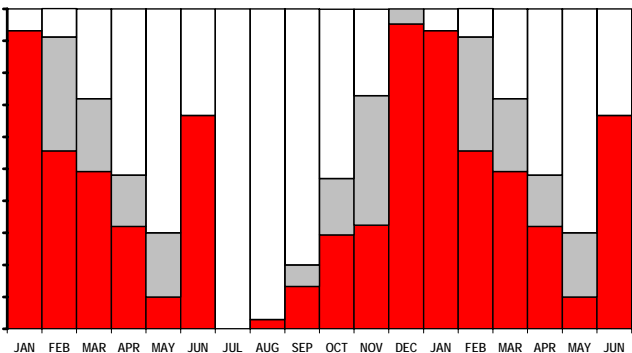
**Population** (621 records): 42% Common, 49% Frequent, 9% Rare.

**Dispersion** (572 records): 84% variable, 13% clumped, 2% widespread, 0.9% evenly distributed.

**Flowering** (592 records with: Jan 58, Feb 45, Mar 128, Apr 25, May 20, Jun 6, Jul 10, Aug 35, Sep 60, Oct 17, Nov 39, Dec 149): Buds from May to Aug; Flowering from Sep to Jan and Jun; Peak Flowering not significant; Over from Mar, Sep and Nov to Dec; Fruit from Jan, Mar to Apr and Jun to Jul; Nothing from Feb to May. Peak levels at 100% in Aug and Oct. Historically recorded as flowering from Aug to Dec.



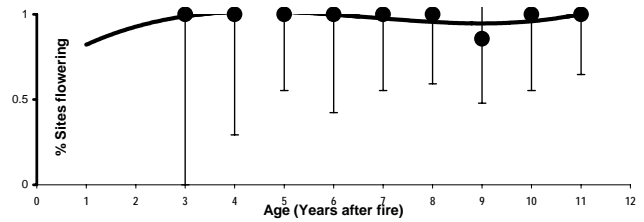
**Growth** (591 records with: Jan 59, Feb 45, Mar 128, Apr 25, May 20, Jun 6, Jul 10, Aug 35, Sep 60, Oct 17, Nov 37, Dec 149): Much from Oct to Apr; Rare from Feb to Mar and Nov; None from Mar to Nov. Peak levels at 100% in Dec.



**Seedlings** (352 records): Absent in 96%; fewer seedlings than prefire adults in 1 case, and more in 6 cases. Seedlings found in Jul and Dec (6).

**Fire Survival** (17 records): 82% survived by seedlings only, 6% eliminated from the area by fires, 6% escaped fires in fire-safe areas, 6% resprouted from aerial trunks.

**Age to first flowering:** First flowers recorded at 1 years, 50% estimated at 2-4 years, and 100% recorded at 5 years. Senescence detected after 16 years?



**Height** (595 records): 0.3% 0-0.2 m tall, 46% 0.2-1 m tall, 51% 1-2 m tall, 3% 2-5 m tall.

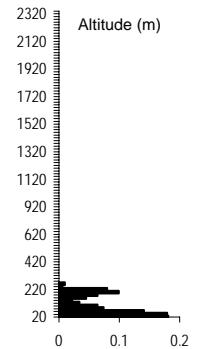
**Pollinators** (36 records): 86% birds, 8% bees or wasps, 3% butterflies or moths, 3% flies.

**Detailed Pollinators** (34 records): Cape Sugarbird (18), Orange-breasted Sunbird (10), Honey Bee (2), Southern Double-collared Sunbird, Painted Lady Butterfly, Malachite Sunbird, Greater Double-collared Sunbird.

**Habitat:**

**Distance to Ocean** (624 records): 86% inland - further than 2 km from coast.

**Altitude** (624 records): 20 - 260 m; 20<sub>lq</sub> - 40<sub>med</sub> - 60<sub>uq</sub>m.

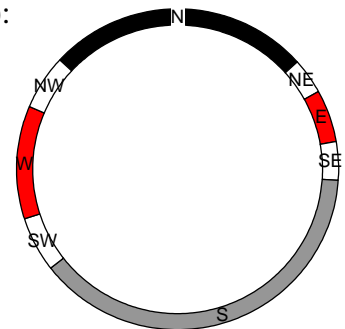


**Landform** (596 records): 51% deep soil, 46% shallow soil, 2% swamp, 1% rocky outcrops, 0.3% lake edge.

**Slope** (595 records): 38% platform, 32% gentle incline, 15% hill top, 8% dunes, 5% valley bottom, 3% steep incline.

**Aspect** (345 records):

43% South, 31% North, 17% West, 9% East.



**Soil Type** (594 records):

71% sandy, 17% loamy, 8% rocky, 2% gravelly, 1% clayey, 0.5% peaty.

**Soil Colour** (588 records): 43% grey, 32% brown, 8% black, 8% white, 6% red, 3% yellow, 1% orange.

**Geology** (605 records): 89% limestone, 7% Tertiary sands, 2% sandstone, 1% shale, 0.8% silcrete or ferricrete.

**Vegetation** (624 records): 99% shrubland, 0.5% suburban, 0.2% thicket.

**Conservation Status and Threat:**

**Red Data List Status:** Least Concern.

Occurrence (Fynbos): 1 129 km<sup>2</sup> with 46% conserved and 23% lost; Occupancy: 521 km<sup>2</sup> with 53% conserved and 20% lost. Fragmentation index: 23%.

**Nature Reserves** (624 records): 56% in nature reserves - well conserved.

**Habitat destruction** (585 records):

90% extensive natural habitat, 6% islands, 2% naturally linear habitats, 2% naturally fragmented habitats, 0.5% road verges, 0.2% corridors.

**Alien Invasive Species** (586 records):

77% Fabaceae (chiefly alien *Acacia*), 21% none, 0.9% Myrtaceae, 0.3% other aliens, 0.2% *Pinus*.

**Alien Density** (584 records): 21% alien-free, 43% sparse, 20% abundant, 12% dense, 4% impenetrable.**Cultivation & Utilization:**

**Picking** (472 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:** None.

**Confusing Species:** Confused with *L. oleifolium*, *fulgens*, *muir* and *calligerum*, the intermediate population adjacent *L. fulgens* giving the most problems. Also incorrectly coded as *L. truncatulum*.

Records of identification queries = 24.

Records of corrected identification queries = 11.

**Variation and Taxonomy:** The specific name was first applied by Buek in 1843, but he did not validly describe it. Meisn. in 1856 used the name as a variety of *L. cuneiforme*.

Rourke noted that several variants occur, but did not formally describe any of them. These were not noted by atlassers, but is reflected in the large number of identification queries.

- Westerly populations have exceptionally long leaves (up to 90 mm long), large inflorescences and large, very densely woolly involucre bracts.
- The most easterly populations between the Breede River Mouth and Vermaaklikheid have obovate leaves suggesting an affinity with *L. praecox*. This form has been atlassed separately as *L. praecox* (small form).

**Distribution:** Add.

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*Leucospermum utriculosum* Rourke 1972 Robertson form  
Robertson Pincushion

**Other Common Names:** Breede River Pincushion.

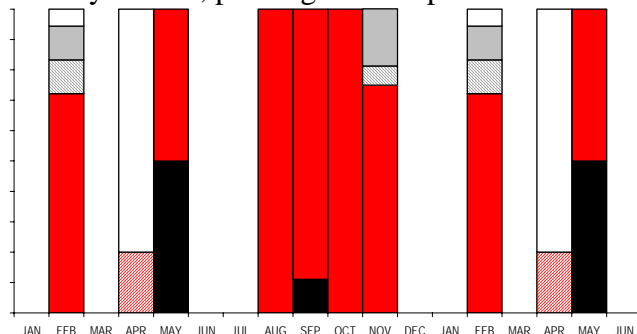
**Other Scientific Names:** *None*.

**57 Records**

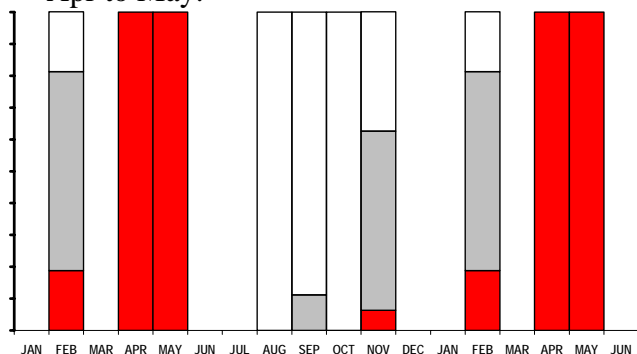
**Population** (55 records): 7% Common, 53% Frequent, 40% Rare.

**Dispersion** (44 records): 64% variable, 36% clumped.

**Flowering** (54 records with: Jan 0, Feb 18, Mar 0, Apr 5, May 2, Jun 0, Jul 0, Aug 2, Sep 9, Oct 2, Nov 16, Dec 0): Buds from Apr; Flowering from Feb, May and Aug to Nov; Peak Flowering from May; Over not significant; Fruit from Nov; Nothing from Apr. Peak levels unreliable at 100% from Aug to Oct. Historically recorded (for the entire species) as flowering erratically from May to Mar, peaking from Sep to Nov.



**Growth** (52 records with: Jan 0, Feb 16, Mar 0, Apr 5, May 2, Jun 0, Jul 0, Aug 2, Sep 9, Oct 2, Nov 16, Dec 0): Much from Apr to May; Rare from Feb and Nov; None from Aug to Oct. Peak levels unreliable at 100% from Apr to May.



**Seedlings** (20 records): All without any seedlings present.

**Fire Survival** : No data.

**Age to first flowering:** First flowers recorded at 100% at 19 years: no data from younger veld.

**Height** (55 records): 16% 0.2-1 m tall, 84% 1-2 m tall.

**Pollinators** (4 records): 100% birds.

**Detailed Pollinators** (2 records): Orange-breasted Sunbird, Malachite Sunbird.

**Habitat:**

**Distance to Ocean** (57 records): 100% inland - further than 2 km from coast.

**Altitude** (57 records): 260 - 740 m; 360<sub>lq</sub> - 400<sub>med</sub> - 480<sub>uq</sub>m.

**Landform** (56 records): 52% deep soil, 48% shallow soil.

**Slope** (56 records): 66% gentle incline, 20% steep incline, 11% hill top, 2% valley bottom, 2% platform.

**Aspect** (52 records): 36% South, 29% North, 27% East, 9% West.

**Soil Type** (56 records): 48% sandy, 23% gravelly, 16% rocky, 11% loamy, 2% clayey.

**Soil Colour** (56 records): 45% brown, 43% grey, 9% orange, 2% yellow, 2% red.

**Geology** (48 records): 92% sandstone, 8% shale.

**Vegetation** (56 records): 100% shrubland.

**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened D2(i,ii).

**Occurrence** (Fynbos): 258 km<sup>2</sup> with 9% conserved and 4% lost; **Occupancy:** 68 km<sup>2</sup> with 6% conserved and 10% lost. **Fragmentation index:** 7%.

**Nature Reserves** (57 records): 9% in nature reserves - inadequately conserved.

**Habitat destruction** (55 records): 95% extensive natural habitat, 4% naturally linear habitats, 2% islands.

**Alien Invasive Species** (56 records): 82% none, 5% *Hakea*, 5% Fabaceae (chiefly alien *Acacia*), 4% other aliens, 2% *Pinus*, 2% annual alien grasses.

**Alien Density** (56 records): 82% alien-free, 18% sparse.

**Cultivation & Utilization:**

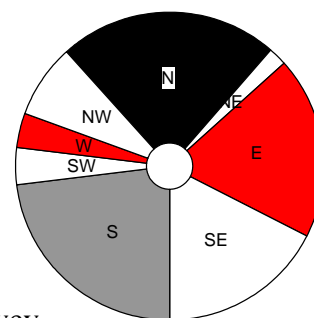
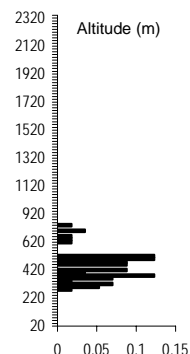
**Picking** (44 records): 100% no sign of picking. **Cultivation Status:** No noted cultivation.

**Atlassers Notes:** None.

**Confusing Species:** None.

Records of identification queries = 2.

**Variation and Taxonomy:** This form was noted by Rourke but not formally assigned a name: it has orange to copper-coloured perianth and styles, crimson pollen



presenters and rusty long hairs on the  
perianth.

**Distribution:** Add.

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## *Leucospermum utriculosum* Rourke 1972 Potberg form Infante Pincushion

**Other Common Names:** Breede River Pincushion.

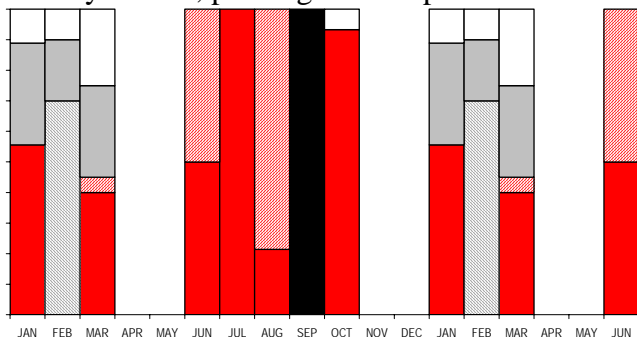
**Other Scientific Names:** *None*.

### 84 Records

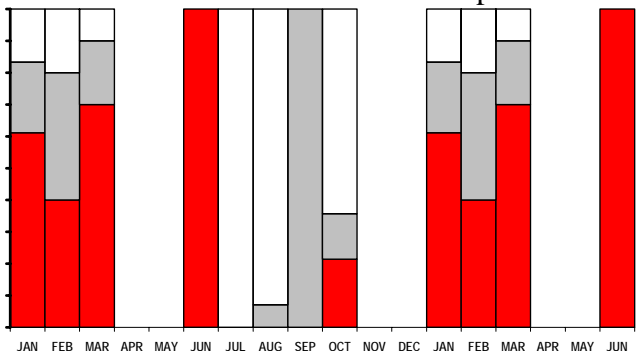
**Population** (83 records): 31% Common, 55% Frequent, 13% Rare.

**Dispersion** (77 records): 68% variable, 29% clumped, 4% widespread.

**Flowering** (81 records with: Jan 18, Feb 10, Mar 20, Apr 0, May 0, Jun 2, Jul 1, Aug 14, Sep 1, Oct 15, Nov 0, Dec 0): Buds from Jun and Aug; Flowering from Jan and Mar to Oct; Peak Flowering from Sep; Over from Feb; Fruit from Jan to Mar; Nothing from Mar. Peak levels unreliable at 100% from Jun to Sep. Historically recorded (for the entire species) as flowering erratically from May to Mar, peaking from Sep to Nov.



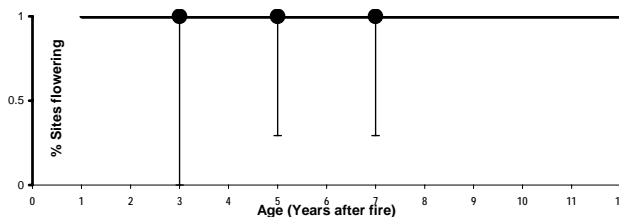
**Growth** (80 records with: Jan 18, Feb 10, Mar 20, Apr 0, May 0, Jun 2, Jul 1, Aug 14, Sep 1, Oct 14, Nov 0, Dec 0): Much from Oct to Jun; Rare from Jan to Mar and Sep; None from Feb and Jul to Oct. Peak levels unreliable at 100% for Jun and Sep.



**Seedlings** (33 records): All without any seedlings present.

**Fire Survival** (1 record): 100% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 3 years, 50% estimated at 3 years, and 100% recorded at 3 years.



**Height** (81 records): 1% 0-0.2 m tall, 78% 0.2-1 m tall, 21% 1-2 m tall.

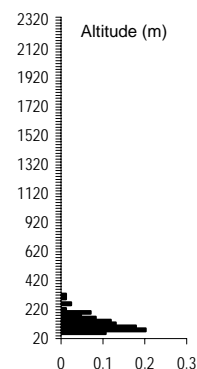
**Pollinators** (2 records): 100% birds.

**Detailed Pollinators** (2 records): Orange-breasted Sunbird, Cape Sugarbird.

### Habitat:

**Distance to Ocean** (84 records): 99% inland - further than 2 km from coast.

**Altitude** (84 records): 40 - 320 m; 60<sub>lq</sub> - 80<sub>med</sub> - 100<sub>uq</sub>m.



**Landform** (83 records): 82% deep soil, 16% shallow soil, 1% swamp, 1% rocky outcrops.

**Slope** (84 records): 51% gentle incline, 36% platform, 11% steep incline, 2% hill top.

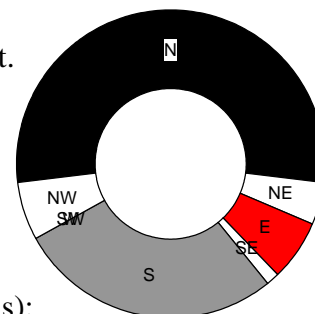
**Aspect** (65 records): 62% North, 28% South, 9% East.

**Soil Type** (81 records): 46% sandy, 36% loamy, 12% gravelly, 4% rocky, 2% clayey.

**Soil Colour** (82 records): 59% grey, 23% brown, 16% white, 1% yellow, 1% orange.

**Geology** (75 records): 69% sandstone, 15% silcrete or ferricrete, 11% Tertiary sands, 5% shale.

**Vegetation** (84 records): 100% shrubland.



### Conservation Status and Threat:

**Red Data List Status:** Near Threatened D2(i,ii).

**Occurrence** (Fynbos): 111 km<sup>2</sup> with 47% conserved and 7% lost; **Occupancy:** 62 km<sup>2</sup> with 36% conserved and 11% lost. **Fragmentation index:** 53%.

**Nature Reserves** (84 records): 32% in nature reserves.

**Habitat destruction** (82 records): 88% extensive natural habitat, 12% islands.

**Alien Invasive Species** (81 records): 74% Fabaceae (chiefly alien *Acacia*), 22% none, 4% *Pinus*.

**Alien Density** (81 records): 22% alien-free, 60% sparse, 11% abundant, 6% dense.

### Cultivation & Utilization:

**Picking** (57 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:** None.

**Confusing Species:** Considerable confusion occurred on the Tertiary Sands south of Potberg at Sandhoogte, especially out of peak flowering times, where forms somewhat intermediate between *L. truncatum* and *L. utriculosum* occurred.  
Records of identification queries = 19.  
Records of corrected identification queries = 10.

**Variation and Taxonomy:** This form was noted by Rourke but not formally assigned a name: it has pale yellow-coloured perianth and styles, green pollen presenters and white long hairs on the perianth.

**Distribution:** Add.

INCLUDEPICTURE

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MERGEFORMAT \d

## *Leucospermum profugum* Rourke 1972 Piketberg Pincushion

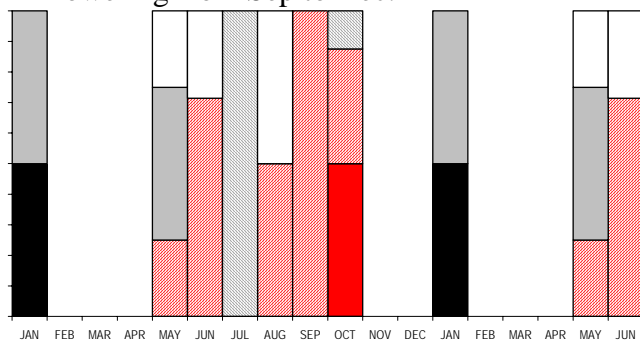
**Other Common Names:** None known.  
**Other Scientific Names:** *None*.

### 27 Records

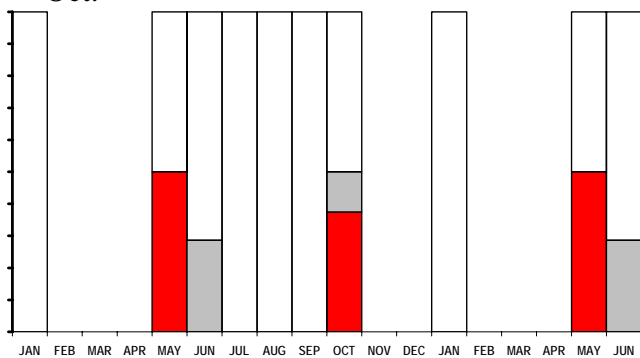
**Population** (27 records): 7% Common, 59% Frequent, 33% Rare.

**Dispersion** (23 records): 57% clumped, 43% variable.

**Flowering** (27 records with: Jan 2, Feb 0, Mar 0, Apr 0, May 4, Jun 7, Jul 1, Aug 2, Sep 3, Oct 8, Nov 0, Dec 0): Buds from May, Jun and Aug to Oct; Flowering from Oct; Peak Flowering from Jan; Over from Jul; Fruit from Jan and May; Nothing from May to Jun and Aug. Peak levels unreliable at 100% from Sep to Oct. Historically recorded as flowering from Sep to Dec.



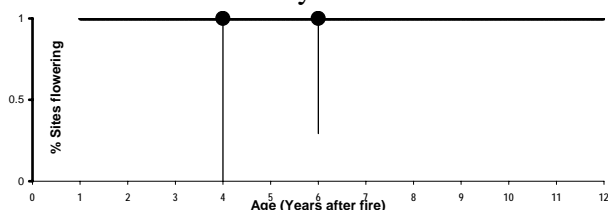
**Growth** (27 records with: Jan 2, Feb 0, Mar 0, Apr 0, May 4, Jun 7, Jul 1, Aug 2, Sep 3, Oct 8, Nov 0, Dec 0): Much from May and Oct; Rare from Jun; None from all year round. Peak levels unreliable at 50% in May and Oct.



**Seedlings** (7 records): All without any seedlings present.

**Fire Survival** (1 record): 100% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 4 years, 50% estimated at 3 years, and 100% recorded at 4 years.



**Height** (27 records): 89% 0-0.2 m tall, 11% 0.2-1 m tall.

**Pollinators** : No data.

**Detailed Pollinators:** No additional data.

### Habitat:

**Distance to Ocean** (27 records): 100% inland - further than 2 km from coast.

**Altitude** (27 records): 500 - 800 m; 620<sub>lq</sub> - 660<sub>med</sub> - 660<sub>uq</sub>m.

**Landform** (27 records): 67% deep soil, 22% shallow soil, 11% rocky outcrops.

**Slope** (27 records): 59% gentle incline, 26% steep incline, 11% hill top, 4% dunes.

**Aspect** (22 records): 32% West, 30% North, 25% East, 14% South.

**Soil Type** (27 records): 70% sandy, 22% loamy, 7% gravelly.

**Soil Colour** (27 records): 74% brown, 19% grey, 4% white, 4% red.

**Geology** (26 records): 100% sandstone.

**Vegetation** (27 records): 100% shrubland.

### Conservation Status and Threat:

**Red Data List Status:** Endangered B1a(i)c(iv)+2a(i)c(iv).

**Occurrence (Fynbos):** 124 km<sup>2</sup> with 6% conserved and 9% lost; **Occupancy:** 29 km<sup>2</sup> with 8% conserved and 8% lost. **Fragmentation index:** 20.

**Nature Reserves** (27 records): 7% in nature reserves - inadequately conserved.

**Habitat destruction** (27 records): 100% extensive natural habitat.

**Alien Invasive Species** (27 records): 74% none, 19% *Pinus*, 4% Fabaceae (chiefly alien *Acacia*), 4% Myrtaceae.

**Alien Density** (27 records): 74% alien-free, 26% sparse.

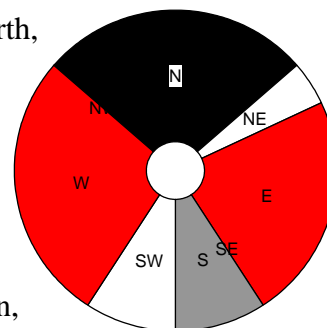
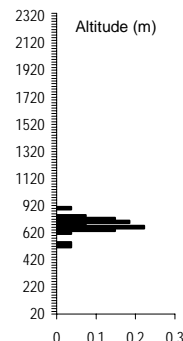
### Cultivation & Utilization:

**Picking** (22 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

### Atlassers Notes:

In clumps on or very near rocky outcrops - more than 40 plants found (LYM99060907); About 12 plants found (LYM99060909); Density high at N of plot to zero at S of plot: total about 85 plants (SMR99060908); About 20 plants (VCH99060909); Grows close to rock [hugs rock!] (AWA98090501); Sprawled over rocks (SHRY0052802);



Seems very local - not found on apparently  
suitable rock outcrops in the area  
(NAH94012302);

**Confusing Species:** None.

**Variation and Taxonomy:** No variation noted.

**Distribution:** Add.

INCLUDEPICTURE

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# *Leucospermum spathulatum* R. Br. 1810 Cedarberg form Cedarberg Pincushion

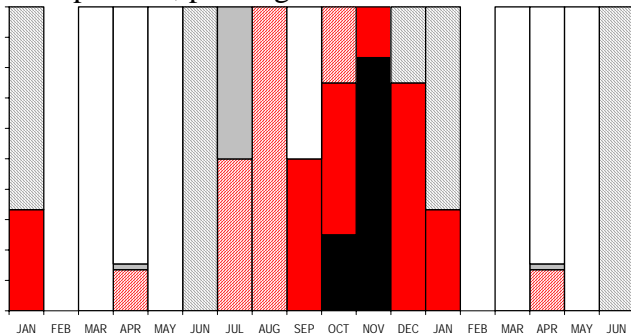
**Other Common Names:** *Rankluisie*.  
**Other Scientific Names:** *bellidifolium* Salisb.  
ex Kn. 1809, *cereris* Compton 1933.

## 86 Records

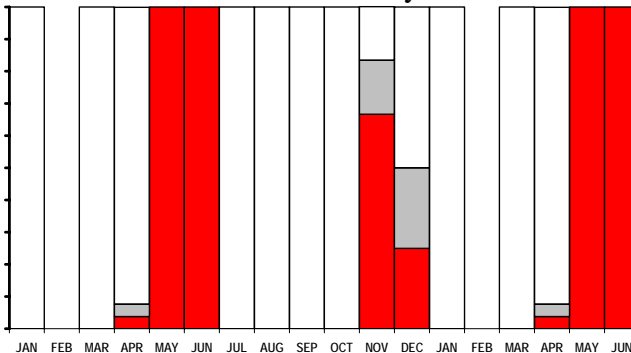
**Population** (86 records): 8% Common, 55% Frequent, 36% Rare, 1% Extinct.

**Dispersion** (71 records): 62% clumped, 35% variable, 1% evenly distributed, 1% widespread.

**Flowering** (85 records with: Jan 3, Feb 0, Mar 1, Apr 52, May 1, Jun 1, Jul 2, Aug 9, Sep 2, Oct 4, Nov 6, Dec 4): Buds from Jul to Aug and Oct; Flowering from Dec to Jan and Sep to Oct; Peak Flowering from Oct to Nov; Over from Dec to Jan and Jun; Fruit from Jul; Nothing from Mar to May and Sep. Peak levels unreliable at 100% from Oct to Jan. Historically recorded as flowering from Sep to Jan, peaking in Oct.



**Growth** (83 records with: Jan 3, Feb 0, Mar 1, Apr 52, May 1, Jun 1, Jul 1, Aug 8, Sep 2, Oct 4, Nov 6, Dec 4): Much from May to Jun and Nov to Dec; Rare from Dec; None from Dec to Apr and Jul to Oct. Peak levels unreliable at 100% from May to Jun.



**Seedlings** (33 records): All without any seedlings present.

**Fire Survival** (4 records): 75% resprouted from underground boles, 25% eliminated from the area by fires.

**Age to first flowering:** First flowers recorded at 1 years, 50% estimated at 6-11 years, and 100% recorded at 12 years.



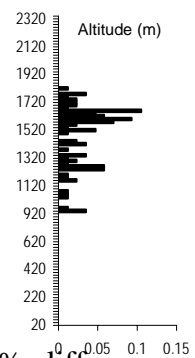
**Height** (85 records): 20% 0-0.2 m tall, 80% 0.2-1 m tall.

**Pollinators** (1 record): 100% beetles.  
**Detailed Pollinators:** No additional data.

## Habitat:

**Distance to Ocean** (86 records): 100% inland - further than 2 km from coast.

**Altitude** (86 records): 820 - 1720 m; 1160 *lq* - 1480 *med* - 1520 *uq*m.

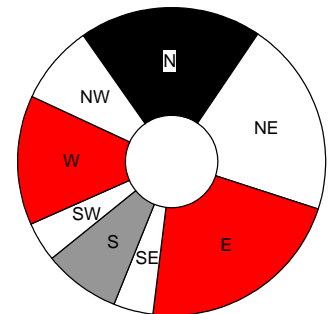


**Landform** (86 records): 49% deep soil, 42% shallow soil, 9% rocky outcrops.

**Slope** (86 records): 37% gentle incline, 34% steep incline, 17% hill top, 8% platform, 3% cliff.

**Aspect** (73 records):

38% East,  
31% North,  
21% West,  
11% South.



**Soil Type** (84 records): 56% sandy, 20% loamy, 17% rocky, 7% gravelly.

**Soil Colour** (86 records): 50% grey, 24% brown, 10% white, 7% yellow, 6% orange, 2% black.

**Geology** (86 records): 90% sandstone, 10% shale.

**Vegetation** (86 records): 100% shrubland.

## Conservation Status and Threat:

**Red Data List Status:** Near Threatened A4c. Occurrence (Fynbos): 566 km<sup>2</sup> with 23% conserved and 2% lost; Occupancy: 101 km<sup>2</sup> with 7% conserved and 1% lost. Fragmentation index: 15%.

**Nature Reserves** (86 records): 10% in nature reserves - inadequately conserved.

**Habitat destruction** (82 records): 99% extensive natural habitat, 1% islands.

**Alien Invasive Species** (83 records): 99% none, 1% *Pinus*.

**Alien Density** (83 records): 99% alien-free, 1% sparse.

## Cultivation & Utilization:

**Picking** (65 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Some 3 by 3 m across (AGR98080809); Mat over 3 m Squared MHR98072601; Sprawling over solid rock (WIJ95042107); This plant is well protected against fire (NGW94111402); Resprouter? <Not known to resprout> (OUT98092503); Some 19 Plants (NGW94111402); One plant dead (WMP98121805);

**Confusing Species:** None noted.  
Records of identification queries = 3.

**Variation and Taxonomy:** Although Rourke noted that the Sawedge Peak form of this species had longer and wider leaves, he did

not separate this form as we have done here. This form has leaves up to 27 mm long and 11 mm wide.

*L. bellidifolium* was considered by Phillips and Stapf to be this species: however, no type is known and no location specified and Rourke considers the description too vague to be definitive.

**Distribution:** Add.

INCLUDEPICTURE

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## *Leucospermum spathulatum* R. Br 1810 Keerom form

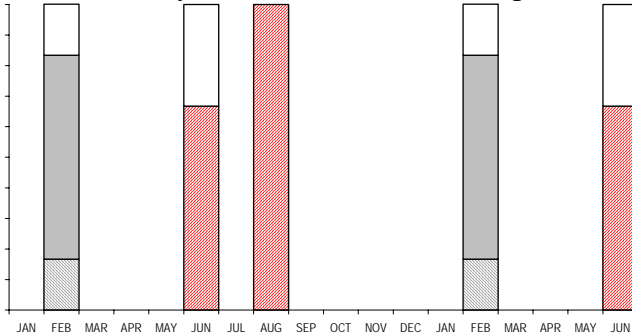
**Other Common Names:** None known.  
**Other Scientific Names:** *None*.

### 10 Records

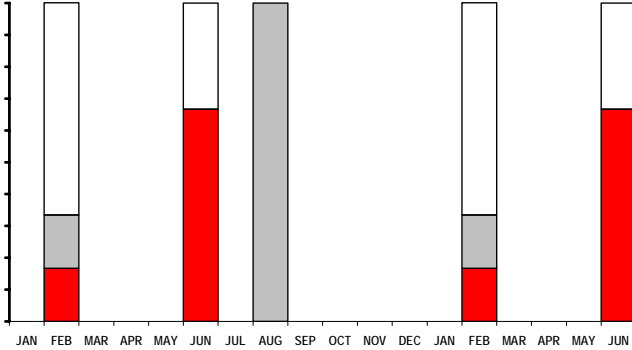
**Population** (10 records): 0% Common, 60% Frequent, 40% Rare.

**Dispersion** (10 records): 60% clumped, 40% variable.

**Flowering** (10 records with: Jan 0, Feb 6, Mar 0, Apr 0, May 0, Jun 3, Jul 0, Aug 1, Sep 0, Oct 0, Nov 0, Dec 0): Buds from Jun to Aug; Flowering and Peak Flowering not recorded; Over not significant; Fruit from Feb; Nothing from Jun. Peak levels unreliable. Historically collected in flower in Sep.



**Growth** (10 records with: Jan 0, Feb 6, Mar 0, Apr 0, May 0, Jun 3, Jul 0, Aug 1, Sep 0, Oct 0, Nov 0, Dec 0): Much from Jun; Rare from Aug; None from Feb and Jun.



**Seedlings** (6 records): All without any seedlings present.

**Fire Survival** : No data.

**Age to first flowering**: No data.

**Height** (10 records): 80% 0-0.2 m tall, 20% 0.2-1 m tall.

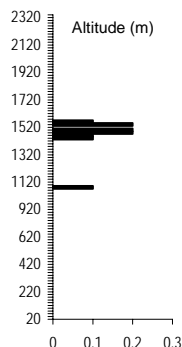
**Pollinators** : No data.

**Detailed Pollinators**: No additional data.

### Habitat:

**Distance to Ocean** (10 records): 100% inland - further than 2 km from coast.

**Altitude** (10 records): 960 - 1460 m; 1340<sub>lq</sub> - 1380<sub>med</sub> - 1380<sub>uq</sub>m.



**Landform** (10 records): 70% deep soil, 30% shallow soil.

**Slope** (10 records): 50% steep incline, 50% gentle incline.

**Aspect** (10 records): 40% North, 40% East, 20% South.

**Soil Type** (10 records):

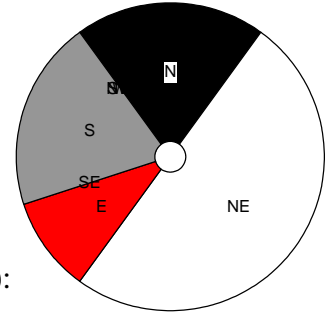
70% sandy, 20% rocky, 10% loamy.

**Soil Colour** (10 records):

60% grey, 40% brown.

**Geology** (10 records): 100% sandstone.

**Vegetation** (10 records): 100% shrubland.



### Conservation Status and Threat:

**Red Data List Status:** Endangered

B1a(i,ii)c(iv)+2a(i,ii)c(iv), D.

Occurrence (Fynbos): 51 km<sup>2</sup> with 0% conserved and 1% lost; Occupancy: 17 km<sup>2</sup> with 1% conserved and 3% lost. Fragmentation index: 24%.

**Nature Reserves** (10 records): 0% in nature reserves - unconserved.

**Habitat destruction** (10 records):

100% extensive natural habitat.

**Alien Invasive Species** (10 records): 90% none, 10% *Pinus*.

**Alien Density** (10 records): 90% alien-free, 10% impenetrable.

### Cultivation & Utilization:

**Picking** (10 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

### Atlassers Notes:

SHR93080805 ID ! Ls Spat Leaves Appear Glabrous But Have Tiny Curly Hairs; SHR93080805 PS Plants Spotted On Cleared Strip Adjacent To Powerlines;

**Confusing Species:** None known.

Records of identification queries = 1.

**Variation and Taxonomy:** Although Rourke noted that the Sawedge Peak form of this species had longer (30 mm) and wider (13 mm) leaves than the typical form, he did not separate this form as we have done here.

**Distribution:** Add.

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