

*Leucospermum calligerum* (Salisb. ex Kn.) Rourke 1809, 1969

**Arid Pincushion**

*Luisiebossie*

**Other Common Names:** Callus-bearing Leucadendrum, Gnaphalium-leaf Leucadendrum, Pink Pincushion, Pubescent Leucadendrum, Xeranthemum-leaf Leucadendrum, *Luisies*, *Luisiesbos*, *Rooiluisie*.

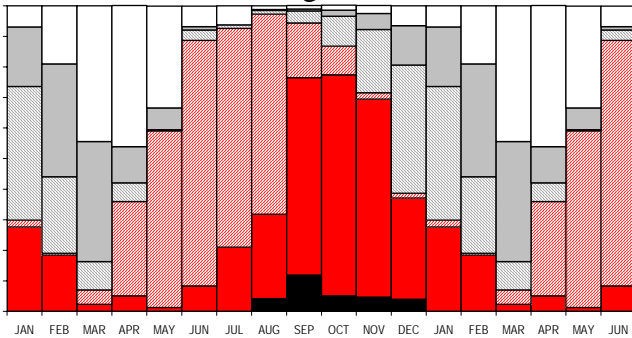
**Other Scientific Names:** *gnaphaliifolium* Salisb. ex Knight 1809, *puberum* (L) 1771, *xeranthemifolium* Salisb. ex Knight 1809.

**2375 Records**

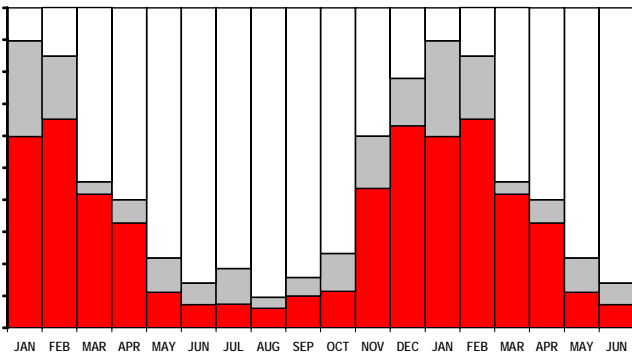
**Population** (2355 records): 0.9% Abundant, 31% Common, 51% Frequent, 16% Rare, 0.1% Extinct.

**Dispersion** (2185 records): 64% variable, 32% clumped, 3% widespread, 1% evenly distributed.

**Flowering** (2350 records with: Jan 87, Feb 179, Mar 214, Apr 195, May 225, Jun 178, Jul 81, Aug 333, Sep 285, Oct 256, Nov 193, Dec 124): Buds from Apr to Aug; Flowering from Jul to Jan; Peak Flowering not significant; Over from Nov to Feb; Fruit from Jan to Mar; Nothing from Mar to May. Peak levels at 99% in Aug. Historically recorded as flowering from Jul to Jan.



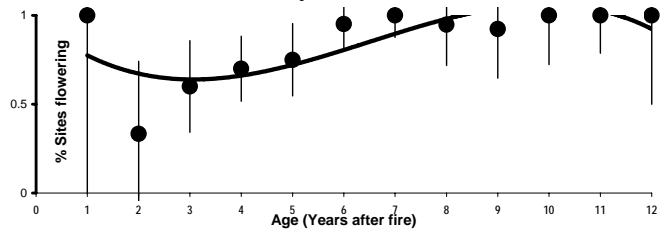
**Growth** (2314 records with: Jan 87, Feb 178, Mar 213, Apr 195, May 225, Jun 178, Jul 81, Aug 328, Sep 281, Oct 254, Nov 172, Dec 122): Much from Nov to Apr; Rare from Jan to Feb; None from Mar to Dec. Peak levels at 90% in Jan.



**Seedlings** (1028 records): Absent in 97%: fewer seedlings than prefire adults in 8 cases, and more in 8 cases. Seedlings found in Jan (3), Mar, Apr (3), Jun, Jul (4) and Oct (4).

**Fire Survival** (111 records): 77% survived by seedlings only, 13% escaped fires in fire-safe areas, 5% eliminated from the area by fires, 5% resprouted from underground boles, 0.9% resprouted from aerial trunks.

**Age to first flowering:** First flowers recorded at 1 years, 50% estimated at 2 years, and 100% recorded at 7 years.



**Height** (2347 records): 1% 0-0.2 m tall, 49% 0.2-1 m tall, 46% 1-2 m tall, 4% 2-5 m tall.

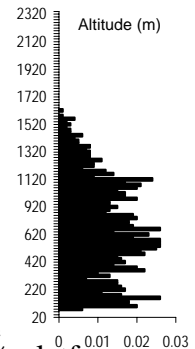
**Pollinators** (13 records): 38% birds, 31% beetles, 23% bees or wasps, 8% flies.

**Detailed Pollinators** (5 records): Orange-breasted Sunbird (3), Cape Sugarbird (2).

**Habitat:**

**Distance to Ocean** (2347 records): 100% inland - further than 2 km from coast.

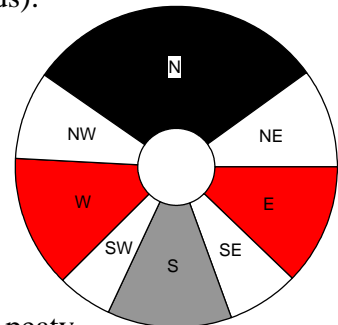
**Altitude** (2347 records): 60 - 1860 m; 360<sub>lq</sub> - 620<sub>med</sub> - 880<sub>uqm</sub>.



**Landform** (2332 records): 70% deep soil, 24% shallow soil, 6% rocky outcrops, 0.2% riverine, 0.1% swamp.

**Slope** (2336 records): 59% gentle incline, 20% steep incline, 11% platform, 8% hill top, 2% valley bottom, 0.5% cliff.

**Aspect** (2015 records): 40% North, 21% East, 20% West, 19% South.



**Soil Type** (2321 records): 55% sandy, 17% loamy, 17% gravelly, 9% rocky, 2% clayey, 0.0% peaty.

**Soil Colour** (2318 records): 39% brown, 38% grey, 8% yellow, 6% orange, 5% white, 3% red, 0.7% black.

**Geology** (2247 records): 82% sandstone, 11% shale, 3% silcrete or ferricrete, 3% conglomerate, 1% Tertiary sands, 0.5% granite, 0.0% limestone.

**Vegetation** (2331 records): 99% shrubland, 0.6% grassland, 0.3% agricultural lands, 0.3% plantations, 0.0% wooded grassland, 0.0% thicket, 0.0% woodland.

**Conservation Status and Threat:**

**Red Data List Status:** Least Concern, but Endangered A2c on West Coast Swartland and Critically Endangered A2c for the Worcester form.

Occurrence (Fynbos): 22 463 km<sup>2</sup> with 16% conserved and 19% lost; Occupancy: 2 380 km<sup>2</sup> with 18% conserved and 12% lost. Fragmentation index: 4%.

**Nature Reserves** (2347 records): 22% in nature reserves.

**Habitat destruction** (2307 records): 90% extensive natural habitat, 7% islands, 1% naturally linear habitats, 1% naturally fragmented habitats, 0.6% road verges, 0.2% corridors, 0.0% patches.

**Alien Invasive Species** (2285 records): 69% none, 12% *Pinus*, 10% Fabaceae (chiefly alien *Acacia*), 7% *Hakea*, 2% Myrtaceae, 0.3% other aliens.

**Alien Density** (2280 records): 69% alien-free, 24% sparse, 6% abundant, 1% dense, 0.1% impenetrable.

**Cultivation & Utilization:**

**Picking** (1736 records): 100% no sign of picking.

**Cultivation Status:** Plantings - 3 records (0.1%).

**Witch's Broom Infestation:** 1 record (0.04%).

**Atlassers Notes:**

Hoary old specimens 100m diameter of bare trunk! (AGR97061201); Some to over 4 m tall (AGRY0043029); Very tall (AWA95081703); Very big (AWA95090401); Massive (AWA96082208); Enormous (AWA98090202); Very large - some bushes measuring about 2 m X 2 m X 1.5 m high (PGD93091801); We have never seen such dense and tall plants - some over 4 m high (VJK94103001); Multiple heads - up to 5 on one stem (ING95111201);

Peculiar flat form only occasionally reaching 1 m tall (AGR96042503); With similar growth habit to Worcester Valley at Worcester (AGR97010413); Low growing mat (LYMY0101908); A sprawling 1.5 m diameter 200 mm high bush with flowerheads on ground (MHR98041303); Very rough leaves (SMR99060911); Grazed (AGR97061201);

Only dead plants seen (AGRY3112702); Plants seem to be dying (HRKY0122601); Experiencing water stress (SHRY0070901); Many dying of drought and some resprouting from base - just above or below ground level (WIJ94041105); Many dried - up buds - due to drought? (WIJ94041106);

**Confusing Species:** Mostly confused with *L. wittebergense*, which is similar but has smaller flowerheads. Odd misidentifications with *L. spathulatus*, *saxatilis*, *mundii*, *lineare*, *vestitum* and *truncatum*. The populations near Napier caused confusion with *L. heterophyllum*, and show some intermediate characters. Many older specimens well exceeded the heights and diameters given in the literature.

Records of identification queries = 54.

Records of corrected identification queries = 23.

**Variation and Taxonomy:** Although *pubera* is the earliest name for this species, Linnaeus cited it as a synonym for *L. oleifolium* thus making this name superfluous, even though his description is for *L. calligerum*. The choice of *L. calligerum* from the three species described by Salisbury is based on only that type specimen being traced. The Breede River Valley from Breede River Station to Worcester has a peculiar creeping form.

**Distribution:** Add.

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*Leucospermum heterophyllum* (Thunb.) Rourke 1781, 1967

**Trident Pincushion**

*Rankluisie*

**Other Common Names:** Snakebush,  
*Slangbossie.*

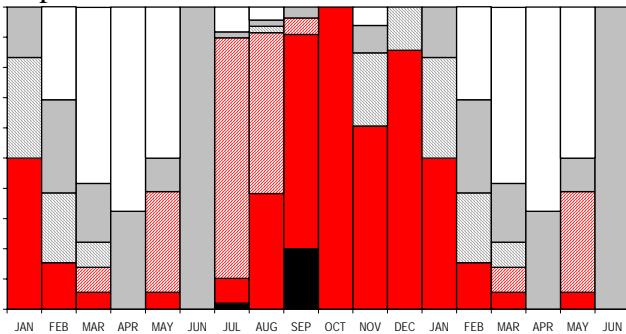
**Other Scientific Names:** *lemmerzianum* Schltr.  
1900, *patens* R.Br. 1810, *patulum* R.Br.  
1810.

**391 Records**

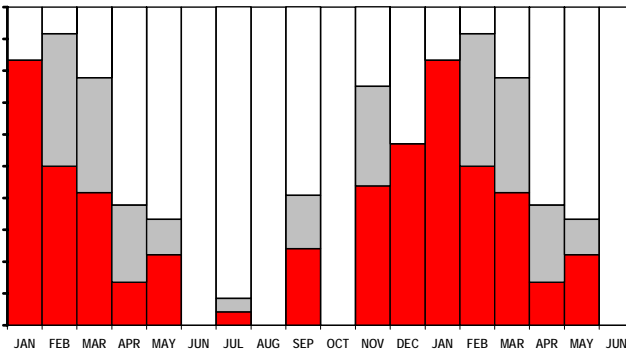
**Population** (384 records): 28% Common,  
56% Frequent, 16% Rare.

**Dispersion** (281 records): 75% variable,  
23% clumped, 1% widespread, 0.7% evenly  
distributed.

**Flowering** (304 records with: Jan 6, Feb 13,  
Mar 36, Apr 37, May 18, Jun 2, Jul 49, Aug  
47, Sep 55, Oct 1, Nov 33, Dec 7): Buds  
from May to Aug; Flowering from Aug to  
Jan; Peak Flowering from Sep; Over from  
Jan to Feb and Nov; Fruit from Feb and Apr;  
Nothing from Feb to May. Peak levels at  
100% in Oct. Historically recorded as  
flowering from Aug to Jan with a Sep to Oct  
peak.



**Growth** (299 records with: Jan 6, Feb 12, Mar  
36, Apr 37, May 18, Jun 2, Jul 48, Aug 46,  
Sep 54, Oct 1, Nov 32, Dec 7): Much from  
Nov to Mar and May and Sep; Rare from  
Feb to Apr and Nov; None from Mar to Dec.  
Peak levels at 92% in Feb.



**Seedlings** (90 records): Absent in 89%: fewer  
seedlings than prefire adults in 2 cases, and  
more in 3 cases. Seedlings found in Jul (4)  
and Sep.

**Fire Survival** (15 records): 93% survived by  
seedlings only, 7% resprouted from  
underground boles.

**Age to first flowering:** First flowers recorded  
at 1 years, 50% estimated at 4 years, and  
100% recorded at 5 years.



**Height** (305 records): 66% 0-0.2 m tall,  
33% 0.2-1 m tall, 2% 1-2 m tall.

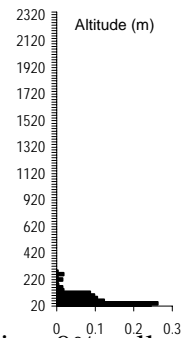
**Pollinators** : No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (389  
records): 100% inland -  
further than 2 km from coast.

**Altitude** (389 records): 20 - 280  
m; 20<sub>lq</sub> - 40<sub>med</sub> - 40<sub>uq</sub>m.

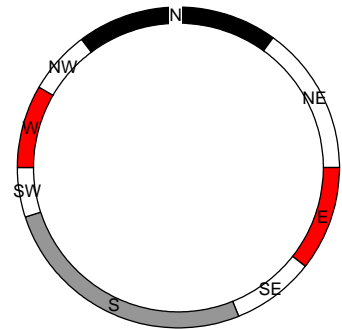


**Landform** (308 records):  
92% deep soil, 7% shallow  
soil, 1.0% swamp, 0.3% lake  
edge.

**Slope** (307 records):  
52% platform, 29% gentle incline, 9% valley  
bottom, 4% hill top, 3% steep incline,  
3% dunes.

**Aspect** (142 records):

33% South,  
30% North,  
23% East,  
14% West.



**Soil Type** (306  
records):  
43% sandy,  
31% loamy,  
16% clayey,  
9% gravelly,  
0.3% rocky.

**Soil Colour** (303 records): 52% brown,  
35% grey, 4% orange, 4% white, 3% yellow,  
1.0% red, 0.3% black.

**Geology** (362 records): 35% silcrete or  
ferricrete, 31% shale, 16% sandstone,  
10% limestone, 7% Tertiary sands,  
0.6% conglomerate.

**Vegetation** (389 records): 98% shrubland,  
2% agricultural lands, 0.3% plantations.

**Conservation Status and Threat:**

**Red Data List Status:** Endangered A2c.

**Occurrence (Fynbos):** 999 km<sup>2</sup> with 8%  
conserved and 43% lost; **Occupancy:**  
404 km<sup>2</sup> with 13% conserved and 51% lost.  
**Fragmentation index:** 30%.

**Nature Reserves** (389 records): 16% in nature  
reserves - inadequately conserved.

**Habitat destruction** (305 records):  
70% extensive natural habitat, 18% islands,  
9% road verges, 1% naturally fragmented  
habitats, 1.0% corridors, 1.0% naturally  
linear habitats.

**Alien Invasive Species** (306 records):  
67% Fabaceae (chiefly alien *Acacia*),  
19% none, 7% *Pinus*, 7% Myrtaceae,  
1.0% other aliens, 0.3% *Hakea*.

**Alien Density** (306 records): 19% alien-free,  
52% sparse, 24% abundant, 4% dense,  
0.7% impenetrable.

**Cultivation & Utilization:**

**Picking** (227 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:**

Very large plant 1.3 m high and about 3 m  
diameter (STU97011404);

Very large in features looking somewhat like *L.*  
*calligerum* - although sprawling also more  
upright than usual (AGRY1022815,  
LYM96120402, NGF97112921,  
SHR98080903, SMR96120402);

**Confusing Species:** Mostly confused with *L.*  
*calligerum* in north of Elim near Napier.  
Also *L. prostratum* and *L. penduculatum*  
when not in flower, but the former has a  
single toothed leaf and the latter does not  
resprout.

Records of identification queries = 26.

Records of corrected identification queries = 16.

**Variation and Taxonomy:** Add.

**Distribution:** Add.

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*Leucospermum royenifolium* (Salisb. ex Kn.) Stapf 1809, 1912  
**Eastern Pincushion**

**Other Common Names:** Royena-leaf  
 Leucadendrum.

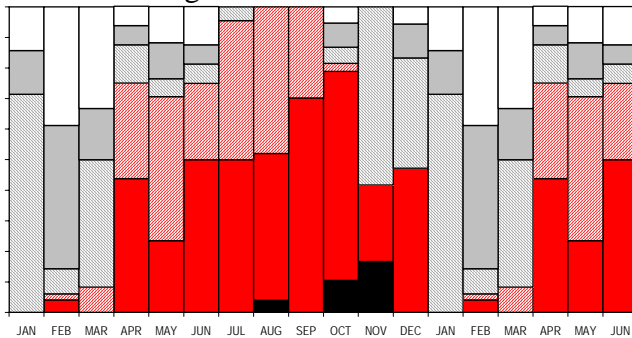
**Other Scientific Names:** *puberum* var. *dubium*  
 Meisn 1856.

**344 Records**

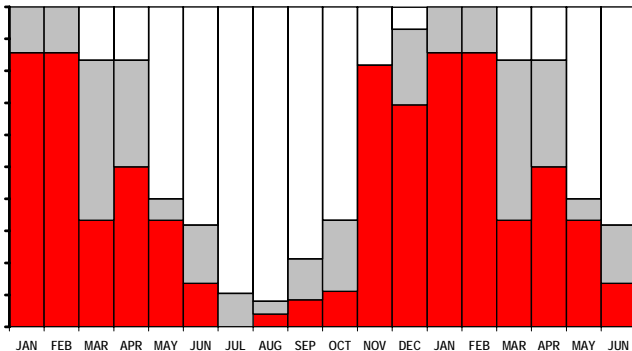
**Population** (341 records): 15% Common,  
 67% Frequent, 17% Rare, 0.3% Extinct.

**Dispersion** (317 records): 52% variable,  
 30% clumped, 13% widespread, 4% evenly  
 distributed.

**Flowering** (333 records with: Jan 7, Feb 49,  
 Mar 12, Apr 16, May 17, Jun 16, Jul 22, Aug  
 25, Sep 47, Oct 38, Nov 12, Dec 72): Buds  
 from Apr to Sep; Flowering from Apr to  
 Dec; Peak Flowering not significant; Over  
 from Nov to Jan and Mar; Fruit from Feb;  
 Nothing from Feb to Mar. Peak levels at  
 100% from Jul to Sep. Historically recorded  
 as flowering from Jul to Dec.



**Growth** (327 records with: Jan 7, Feb 49, Mar  
 12, Apr 12, May 15, Jun 22, Jul 19, Aug 25,  
 Sep 47, Oct 36, Nov 11, Dec 72): Much from  
 Nov to May; Rare from Mar to Apr, Oct and  
 Dec; None from May to Oct. Peak levels at  
 100% from Jan to Feb.



**Seedlings** (158 records): Absent in 92%: fewer  
 seedlings than prefire adults in 5 cases, and  
 more in 1 case. Seedlings found in Jun (3)  
 and Sep (3).

**Fire Survival** (12 records): 25% survived by  
 seedlings only, 25% escaped fires in fire-safe  
 areas, 25% resprouted from underground  
 boles, 17% eliminated from the area by fires,  
 8% resprouted from aerial trunks.

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



**Height** (339 records): 25% 0-0.2 m tall,  
 70% 0.2-1 m tall, 5% 1-2 m tall.

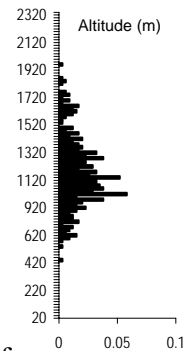
**Pollinators** : No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (341  
 records): 100% inland -  
 further than 2 km from coast.

**Altitude** (341 records): 420 -  
 1860 m; 900<sub>lq</sub> - 1020<sub>med</sub> -  
 1160<sub>uq</sub>m.

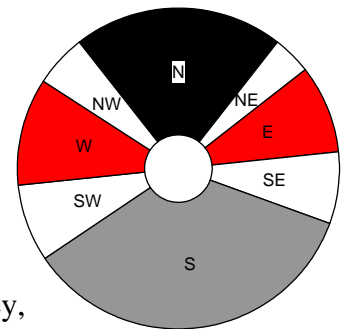


**Landform** (340 records):  
 48% shallow soil, 44% deep  
 soil, 8% rocky outcrops.

**Slope** (341 records): 48% gentle  
 incline, 32% steep incline,  
 16% hill top, 2% cliff, 2% platform,  
 0.3% valley bottom.

**Aspect** (289 records):

43% South,  
 26% North,  
 17% West,  
 13% East.



**Soil Type** (340  
 records):

42% loamy,  
 29% sandy,  
 17% gravelly,  
 9% rocky, 2% clayey,  
 0.9% peaty.

**Soil Colour** (340 records): 47% brown,  
 41% grey, 6% black, 4% orange, 1% yellow,  
 0.9% white.

**Geology** (332 records): 95% sandstone,  
 5% shale, 0.6% conglomerate.

**Vegetation** (340 records): 98% shrubland,  
 1% grassland, 0.3% thicket,  
 0.3% agricultural lands.

**Conservation Status and Threat:**

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

Occurrence (Fynbos): 1 873 km<sup>2</sup> with 20%  
 conserved and 8% lost; Occupancy: 414 km<sup>2</sup>  
 with 12% conserved and 11% lost.  
 Fragmentation index: 14%.

**Nature Reserves** (341 records): 18% in nature  
 reserves - inadequately conserved.

**Habitat destruction** (316 records):  
 93% extensive natural habitat, 4% islands,  
 2% road verges, 2% naturally fragmented  
 habitats, 0.3% naturally linear habitats.

**Alien Invasive Species** (318 records):  
 65% none, 19% *Hakea*, 10% *Pinus*,

4% Fabaceae (chiefly alien *Acacia*),  
2% annual alien grasses, 0.6% other aliens.  
**Alien Density** (318 records): 65% alien-free,  
31% sparse, 4% abundant.

**Cultivation & Utilization:**

**Picking** (204 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Greater than 3 m wide (AWA95101013); One  
plant at least 7 m wide! (OUTY0102210);  
Many killed by fire (OUT95102804); A few  
escaped fire (OUT95102806); Some  
resprouted from bowl & others apparently  
from base of trunk (WIJ97092401);  
Both resprouting & single stemmed forms  
present - most resprouters lower with either  
bright green leaves or very pale and low  
rounded. Hairy and hairless leaves in both  
forms - no clear distinction: status uncertain!  
(AGR99090907); Quite interesting to see *L.*  
*royenifolium* and *wittebergense* growing  
together (DOA94030108); Green on lower  
growth and grey on taller and flowering  
growth - very variable & sometimes looked  
like *L. wittebergense* (OUT94050702);

Heavily eaten (AGRY0121506); Heavily  
grazed! (APE94081909);

Half plants dead - most on S-side!  
(AGR97022604); One plant found but was  
dead (GAC97022604); Not well - many dead  
and dying (OUT96071302); Lots of die-back  
(OUT98040409);

**Confusing Species:** Considerable confusion  
was caused by intermediates and individuals  
approaching *L. wittebergense*. These may be  
hybrid swarms, but in some cases are just  
odd plants that do not resprout and are greyer  
than usual.

Records of identification queries = 42.

Records of corrected identification queries = 19.

**Variation and Taxonomy:** No variation noted,  
apart from intermediates with *L.*  
*wittebergense*.

**Distribution:** Add.

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# *Leucospermum wittebergense* Compton 1931

## Swartberg Pincushion

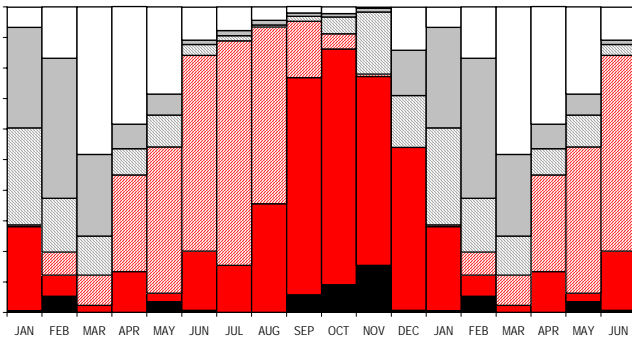
**Other Common Names:** None known.  
**Other Scientific Names:** *None*.

### 2176 Records

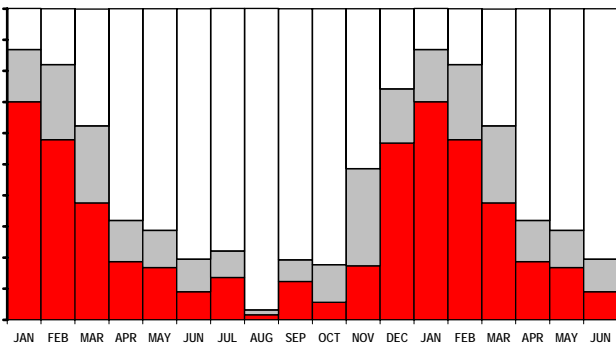
**Population** (2154 records): 0.2% Abundant, 18% Common, 68% Frequent, 14% Rare, 0.1% Extinct.

**Dispersion** (2028 records): 62% variable, 27% clumped, 9% widespread, 2% evenly distributed.

**Flowering** (2125 records with: Jan 167, Feb 131, Mar 172, Apr 187, May 144, Jun 139, Jul 117, Aug 135, Sep 190, Oct 362, Nov 246, Dec 135): Buds from Apr to Aug; Flowering from Aug to Jan; Peak Flowering not significant; Over from Jan and Nov; Fruit from Jan to Mar; Nothing from Mar to May. Peak levels at 98% in Nov. Historically recorded as flowering from Aug to Jan.



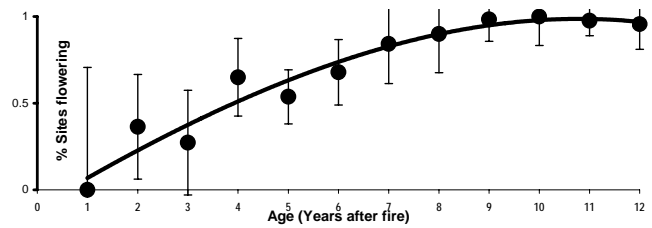
**Growth** (2096 records with: Jan 167, Feb 133, Mar 170, Apr 182, May 143, Jun 133, Jul 118, Aug 128, Sep 187, Oct 356, Nov 247, Dec 132): Much from Dec to Mar; Rare from Feb to Mar and Nov; None from Mar to Dec. Peak levels at 87% in Jan.



**Seedlings** (804 records): Absent in 94%: fewer seedlings than prefire adults in 16 cases, and more in 8 cases. Seedlings found in Jan (3), Mar (2), Apr (3), Jun (4), Jul (3), Aug (2), Sep (3), Oct (2) and Dec (2).

**Fire Survival** (99 records): 42% survived by seedlings only, 38% escaped fires in fire-safe areas, 11% resprouted from underground boles, 8% eliminated from the area by fires.

**Age to first flowering:** First flowers recorded at 1 years, 50% estimated at 3-4 years, and 100% recorded at 10 years.



**Height** (2137 records): 7% 0-0.2 m tall, 78% 0.2-1 m tall, 15% 1-2 m tall, 0.1% 2-5 m tall.

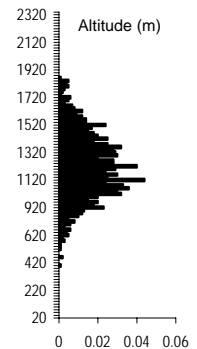
**Pollinators** (11 records): 27% birds, 27% beetles, 18% butterflies or moths, 18% bees or wasps, 9% none observed.

**Detailed Pollinators** (6 records): Orange-breasted Sunbird (3), Painted Lady Butterfly, Great Protea Beetle, African Monarch Butterfly.

### Habitat:

**Distance to Ocean** (2168 records): 100% inland - further than 2 km from coast.

**Altitude** (2168 records): 200 - 1900 m; 940 *lq* - 1100 *med* - 1240 *uq*m.



**Landform** (2158 records): 70% shallow soil, 23% deep soil, 7% rocky outcrops, 0.1% riverine.

**Slope** (2163 records): 53% steep incline, 35% gentle incline, 9% hill top, 2% cliff, 1% platform, 0.2% valley bottom.

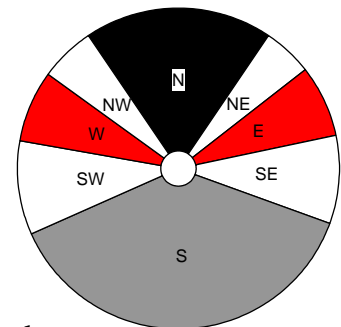
**Aspect** (1982 records): 47% South, 24% North, 15% West, 14% East.

**Soil Type** (2147 records):

53% sandy, 23% loamy, 17% rocky, 7% gravelly, 0.4% clayey, 0.0% peaty.

**Soil Colour** (2145 records):

47% brown, 43% grey, 5% black, 3% orange, 1% yellow, 0.9% white, 0.8% red.



**Geology** (2124 records): 98% sandstone, 2% shale, 0.1% conglomerate, 0.1% basalt, 0.1% silcrete or ferricrete.

**Vegetation** (2161 records): 99% shrubland, 0.5% grassland, 0.5% wooded grassland, 0.0% thicket.

### Conservation Status and Threat:

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

Occurrence (Fynbos): 9 919 km<sup>2</sup> with 35% conserved and 4% lost; Occupancy:

1 901 km<sup>2</sup> with 50% conserved and 1% lost. Fragmentation index: 7%.

**Nature Reserves** (2168 records): 55% in nature reserves - well conserved.

**Habitat destruction** (2099 records): 98% extensive natural habitat, 0.8% islands, 0.8% naturally linear habitats, 0.3% patches, 0.2% road verges, 0.1% naturally fragmented habitats, 0.1% corridors.

**Alien Invasive Species** (2026 records):

92% none, 5% *Hakea*, 3% *Pinus*, 0.5% Fabaceae (chiefly alien *Acacia*), 0.1% Myrtaceae, 0.1% other aliens.

**Alien Density** (2014 records): 92% alien-free, 7% sparse, 0.3% abundant, 0.1% dense, 0.0% impenetrable.

**Cultivation & Utilization:**

**Picking** (1669 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Both resprouting and single stemmed forms present - single stems much taller but also sprawling, branched just above ground level, but with consistently grey leaves and twisted leaf base hairy and hairless leaves in both forms -no clear distinction (AGR99090907); Very large flowers - of magnitude of *L. calligerum* - but leaves smaller and silver (AGRY1020810); Some specimens in the population are 100% *L. royenifolium* in gizz! (AGRY1071912); Seems perfectly typical even though so far from the rest of the range (AGRY2102505); Quite interesting to see *L.*

*wittebergense* and *royenifolium* growing together (DOA94030108); Leaves glabrous and dull green but plant erect shrub (MAJ92090701+2); Erect branches hairy grey leaves but appears to be a resprouter (NAH95033001); Strange country here and this was one of the in between *L. royenifolium* and *L. wittebergense* types! (OUTY1022409)

New growth looks aborted and feels dry (AWA95022401); Many of the plants dying (OUT97052410); Occasional recruitment of plants in road - some mortality - vegetation quite old (PMR91120304); 4 dead bushes - drought? (REM99070802);

**Confusing Species:** Confused with *L. royenifolium* (90%) and *calligerum* (10%). Differs from the former in being single stemmed and grey-leaved, and from the latter in its smaller and more numerous flowerheads.

Records of identification queries = 69

Records of corrected identification queries = 32.

**Variation and Taxonomy:** Add.

**Distribution:** Add.

INCLUDEPICTURE

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# *Leucospermum pedunculatum* Klotzsch 1845

## White-trailing Pincushion

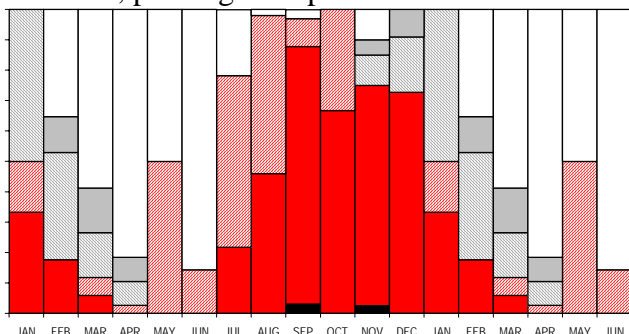
**Other Common Names:** None known.  
**Other Scientific Names:** *None*.

### 277 Records

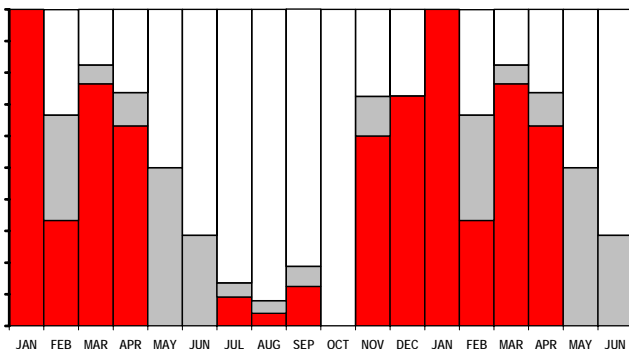
**Population** (275 records): 25% Common, 56% Frequent, 19% Rare.

**Dispersion** (242 records): 76% variable, 20% clumped, 4% widespread, 0.4% evenly distributed.

**Flowering** (264 records with: Jan 6, Feb 17, Mar 34, Apr 38, May 2, Jun 7, Jul 23, Aug 50, Sep 33, Oct 3, Nov 40, Dec 11): Buds from Jul to Aug; Flowering from Jul to Jan; Peak Flowering not significant; Over from Jan to Feb; Fruit not significant; Nothing from Feb to Jul. Peak levels at 100% in Oct. Historically recorded as flowering from Aug to Jan, peaking in Sep.



**Growth** (260 records with: Jan 6, Feb 15, Mar 34, Apr 38, May 2, Jun 7, Jul 22, Aug 50, Sep 32, Oct 3, Nov 40, Dec 11): Much from Nov to Apr; Rare from Feb, May to Jun; None from Feb and Apr to Dec. Peak levels unreliable at 100% in Jan.



**Seedlings** (108 records): All without any seedlings present.

**Fire Survival** (20 records): 80% survived by seedlings only, 15% eliminated from the area by fires, 5% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 3 years, 50% estimated at 4 years, and 100% recorded at 6 years.



**Height** (261 records): 55% 0-0.2 m tall, 44% 0.2-1 m tall, 0.8% 1-2 m tall.

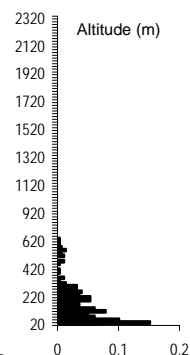
**Pollinators** (1 record): 100% butterflies or moths.

**Detailed Pollinators:** No additional data.

### Habitat:

**Distance to Ocean** (277 records): 90% inland - further than 2 km from coast.

**Altitude** (277 records): 20 - 640 m; 40<sub>lq</sub> - 100<sub>med</sub> - 160<sub>uq</sub> m.

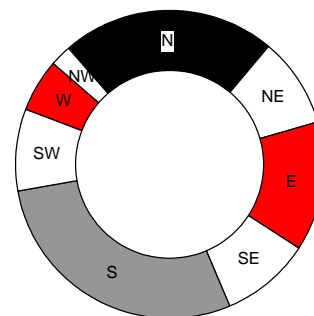


**Landform** (264 records): 89% deep soil, 5% shallow soil, 4% swamp, 1% lake edge, 1% rocky outcrops.

**Slope** (263 records): 50% gentle incline, 29% platform, 11% hill top, 5% steep incline, 4% valley bottom, 0.4% dunes.

### Aspect

(191 records): 37% South, 28% North, 24% East, 12% West.



### Soil Type

(263 records): 85% sandy, 11% loamy, 2% peaty, 0.8% clayey, 0.8% gravelly.

**Soil Colour** (261 records): 54% grey, 20% white, 16% brown, 6% yellow, 3% black, 0.4% red.

**Geology** (241 records): 70% sandstone, 15% Tertiary sands, 7% silcrete or ferricrete, 6% limestone, 2% shale.

**Vegetation** (275 records): 99% shrubland, 0.4% grassland, 0.4% plantations.

### Conservation Status and Threat:

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

**Occurrence** (Fynbos): 1 422 km<sup>2</sup> with 5% conserved and 34% lost; **Occupancy:** 294 km<sup>2</sup> with 11% conserved and 15% lost. **Fragmentation index:** 18%.

**Nature Reserves** (277 records): 20% in nature reserves.

**Habitat destruction** (258 records): 91% extensive natural habitat, 5% islands, 2% naturally linear habitats, 0.8% road

verges, 0.4% patches, 0.4% corridors,  
0.4% naturally fragmented habitats.

**Alien Invasive Species** (257 records):  
37% Fabaceae (chiefly alien *Acacia*),  
32% none, 23% *Pinus*, 4% Myrtaceae,  
3% *Hakea*, 0.4% other aliens.

**Alien Density** (257 records): 32% alien-free,  
43% sparse, 19% abundant, 5% dense,  
0.4% impenetrable.

**Cultivation & Utilization:**

**Picking** (199 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

With light green leaves in this area and plants  
appear to be coming from a resprouting  
rootstock, but are *L. pedunculatum*!  
(NAH94021901); Plants from the hills in this  
area have much darker green leaves than the  
plants in the Hagelkraal area  
(NAH94022006);

Pollinators observed on this hot day include  
Several Species of moth and butterflies  
(AGR98120921);

**Confusing Species:** Misidentified manly with  
*L. prostratum* and *L. heterophyllum* – both of

which are resprouters (but it is not easy to  
observe the base in the dense mat of  
branches). Odd misidentifications with *L.*  
*calligerum* and *L. gracile* from plants not in  
flower.

Records of identification queries = 34.

Records of corrected identification queries = 15.

**Variation and Taxonomy:** Some historical  
confusion around this species arose from its  
being reduced to synonymy with *L. saxatile*  
by Meisner in 1856, and error only rectified  
in 1972.

Plants from the western end of the distribution  
form dense mats with bright green foliage  
and numerous axillary branches. At the  
eastern end plants are sparsely branched and  
arise from more erect basal stem, with more  
olivaceous leaves. Hybrids in the area  
suggest that these might include some  
features from *L. truncatulum*.

**Distribution:** Add.

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*Leucospermum prostratum* (Thunb.) Stapf 1794, 1912

**Yellow-trailing Pincushion**

*Geelrankspeldekussing*

**Other Common Names:** Ball-flower  
Leucadendrum, Creeping Pincushion,  
Scented Pincushion, *Calypso Groundcover*.

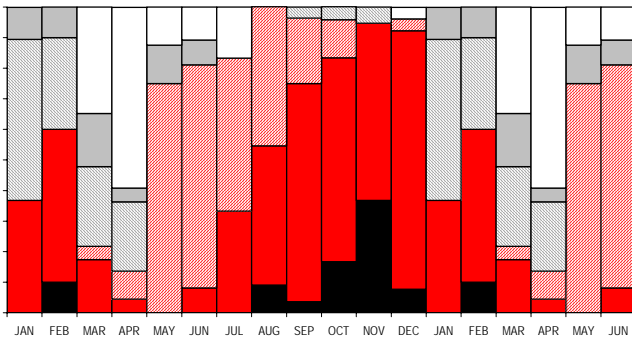
**Other Scientific Names:** *diffusum* R.Br. ex  
*Meisn* 1856, *glomiflorum* (Salisb. ex Knight)  
1809.

**266 Records**

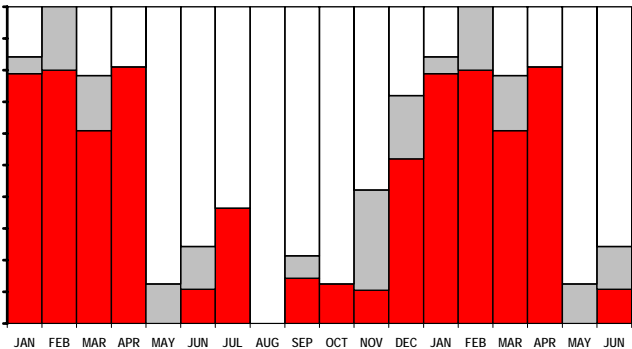
**Population** (265 records): 10% Common,  
60% Frequent, 30% Rare.

**Dispersion** (225 records): 62% variable,  
32% clumped, 4% widespread, 2% evenly  
distributed.

**Flowering** (250 records with: Jan 19, Feb 10,  
Mar 23, Apr 22, May 8, Jun 37, Jul 12, Aug  
22, Sep 28, Oct 24, Nov 19, Dec 26): Buds  
from May to Sep; Flowering from Jul to Feb;  
Peak Flowering from Nov; Over from Jan to  
Apr; Fruit not significant; Nothing from Mar  
to Apr. Peak levels at 100% from Sep to  
Nov. Historically recorded as flowering  
from Jul to Dec.



**Growth** (246 records with: Jan 19, Feb 10, Mar  
23, Apr 21, May 8, Jun 37, Jul 11, Aug 21,  
Sep 28, Oct 24, Nov 19, Dec 25): Much from  
Dec to Apr and Jul; Rare from Feb and Nov  
to Dec; None from Mar and May to Dec.  
Peak levels at 100% in Feb.



**Seedlings** (93 records): Absent in 87%: fewer  
seedlings than prefire adults in 5 cases, and  
more in 1 case. Seedlings found in Jan (2),  
Feb, Apr, Jun, and Sep.

**Fire Survival** (8 records): 88% resprouted from  
underground boles, 13% escaped fires in  
fire-safe areas.

**Age to first flowering:** First flowers recorded  
at 1 years, 50% estimated at 2 years, and  
100% recorded at 3 years.



**Height** (248 records): 80% 0-0.2 m tall,  
20% 0.2-1 m tall.

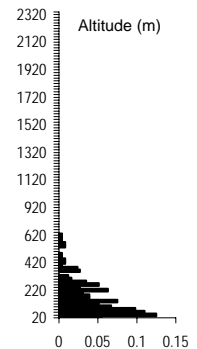
**Pollinators** (2 records): 50% bees or wasps,  
50% beetles.

**Detailed Pollinators** (1 record): Honey Bee.

**Habitat:**

**Distance to Ocean** (255  
records): 67% inland - further  
than 2 km from coast.

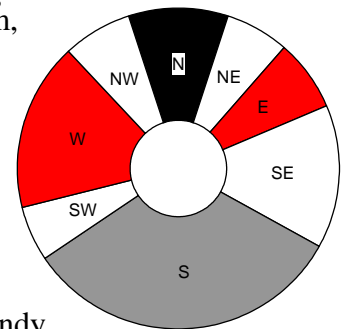
**Altitude** (255 records): 20 - 620  
m; 40<sub>lq</sub> - 100<sub>med</sub> - 140<sub>uq</sub>m.



**Landform** (239 records):  
87% deep soil, 8% shallow  
soil, 4% rocky outcrops.

**Slope** (239 records): 66% gentle  
incline, 18% platform,  
9% steep incline,  
5% valley bottom,  
2% hill top,  
0.4% dunes.

**Aspect** (200  
records):  
43% South,  
23% West,  
17% North,  
17% East.



**Soil Type** (239  
records): 78% sandy,  
18% loamy, 3% gravelly, 1% rocky,  
0.4% clayey.

**Soil Colour** (238 records): 67% grey,  
13% brown, 12% white, 4% yellow,  
3% black, 2% orange.

**Geology** (232 records): 81% sandstone,  
10% Tertiary sands, 4% limestone, 3% shale,  
0.9% silcrete or ferricrete.

**Vegetation** (253 records): 98% shrubland,  
1% suburban, 0.4% grassland, 0.4% wooded  
grassland, 0.4% agricultural lands.

**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 1 983 km<sup>2</sup> with 13%  
conserved and 33% lost; **Occupancy:**

337 km<sup>2</sup> with 9% conserved and 24% lost.  
**Fragmentation index:** 12%.

**Nature Reserves** (255 records): 22% in nature  
reserves.

**Habitat destruction** (235 records):  
87% extensive natural habitat, 10% islands,  
2% naturally fragmented habitats, 0.9% road  
verges, 0.9% patches.

**Alien Invasive Species** (230 records):  
47% Fabaceae (chiefly alien *Acacia*),  
23% none, 18% *Pinus*, 11% Myrtaceae,  
2% *Hakea*, 0.4% other aliens.

**Alien Density** (229 records): 23% alien-free,  
53% sparse, 14% abundant, 7% dense,  
3% impenetrable.

**Cultivation & Utilization:**

**Picking** (190 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Mainly reseeding (80%) after fire  
(NAH98071601).

**Confusing Species:** Odd mistakes – when not  
in flower - with *L. bolusii* and *pedunculatum*,  
both of which are not resprouters, and  
*Diastella divaricata* subsp. *montana* which  
also does not resprout.

Records of identification queries = 8.

Records of corrected identification queries = 5.

**Variation and Taxonomy:** Add.

**Distribution:** Add.

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# *Leucospermum bolusii* Gand. 1901

## Gordons Bay Pincushion

### Witluisie

**Other Common Names:** Bolus's Pincushion, Fragrant Pincushion, White Pincushion, *Luisiesbos*, *Witspeldekussing*.

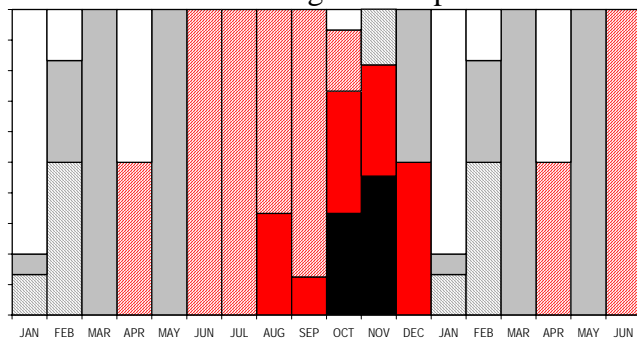
**Other Scientific Names:** *album* Bond 1941, *oleifolium* var. *brownii* Meisn. 1856.

#### 71 Records

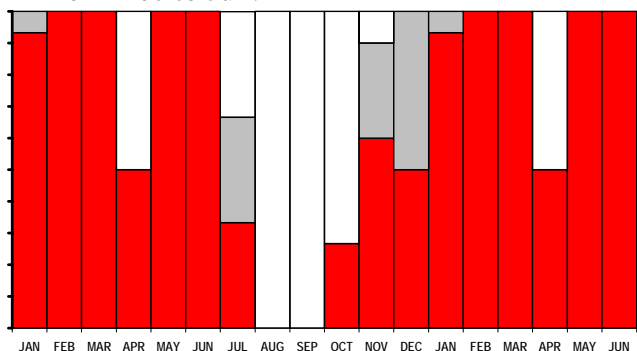
**Population** (70 records): 46% Common, 40% Frequent, 13% Rare, 1% Extinct.

**Dispersion** (66 records): 76% variable, 15% clumped, 8% widespread, 2% evenly distributed.

**Flowering** (70 records with: Jan 15, Feb 6, Mar 1, Apr 2, May 3, Jun 1, Jul 3, Aug 3, Sep 8, Oct 15, Nov 11, Dec 2): Buds from Apr and Jun to Oct; Flowering from Aug and Oct to Dec; Peak Flowering from Oct to Nov; Over from Feb; Fruit from Feb to Mar and May; Nothing from Jan, and Apr. Peak levels at 100% from Jun to Sep and Nov. Historically recorded as flowering from Sep to Dec.



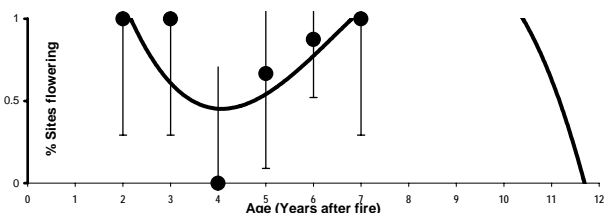
**Growth** (69 records with: Jan 15, Feb 6, Mar 1, Apr 2, May 3, Jun 1, Jul 3, Aug 3, Sep 8, Oct 15, Nov 10, Dec 2): Much from Oct to Jul; Rare from Jul and Nov to Dec; None from Apr and Jul to Oct. Peak levels at 100% from Dec to Jun.



**Seedlings** (32 records): All without any seedlings present.

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

**Age to first flowering:** First flowers recorded at 2 years, 50% estimated at 4-5 years, and 100% recorded at 7 years.



**Height** (70 records): 1% 0-0.2 m tall, 89% 0.2-1 m tall, 10% 1-2 m tall.

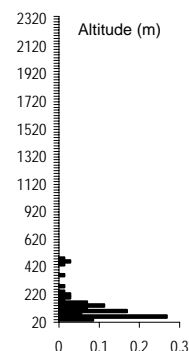
**Pollinators** (1 record): 100% beetles.

**Detailed Pollinators:** No additional data.

#### Habitat:

**Distance to Ocean** (70 records): 99% coastal - less than 2 km from coast.

**Altitude** (70 records): 20 - 480 m; 40<sub>lq</sub> - 60<sub>med</sub> - 60<sub>uq</sub>m.



**Landform** (69 records): 61% deep soil, 29% shallow soil, 10% rocky outcrops.

**Slope** (70 records): 54% steep incline, 46% gentle incline.

**Aspect** (67 records):

70% West,  
16% South,  
14% North.

**Soil Type** (67 records):

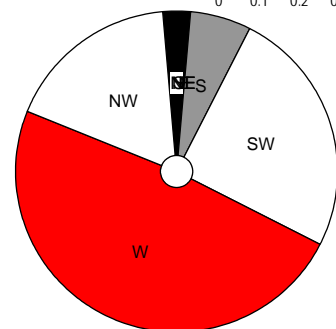
54% sandy,  
25% loamy,  
16% gravelly,  
4% rocky.

**Soil Colour** (66 records):

56% brown, 24% grey,  
14% orange, 5% white, 2% red.

**Geology** (68 records): 94% sandstone, 3% conglomerate, 3% shale.

**Vegetation** (70 records): 100% shrubland.



#### Conservation Status and Threat:

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

**Occurrence** (Fynbos): 36 km<sup>2</sup> with 0% conserved and 36% lost; **Occupancy:** 34 km<sup>2</sup> with 0% conserved and 11% lost. **Fragmentation index:** 81%.

**Nature Reserves** (70 records): 0% in nature reserves - unconserved.

**Habitat destruction** (69 records): 97% extensive natural habitat, 1% islands, 1% naturally fragmented habitats.

**Alien Invasive Species** (66 records): 48% Fabaceae (chiefly alien *Acacia*), 20% none, 17% *Pinus*, 9% Myrtaceae, 6% *Hakea*.

**Alien Density** (66 records): 20% alien-free, 76% sparse, 3% abundant, 2% dense.

#### Cultivation & Utilization:

**Picking** (46 records): 100% no sign of picking.

**Cultivation Status:** Plantings - 1 record (1%).

**Atlassers Notes:** None.

**Confusing Species:** None noted.  
Records of identification queries = 1.

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

**Distribution:** Add.

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*Leucospermum truncatum* (Salisb. ex Kn.) Rourke 1809, 1967

**Oval-leaf Pincushion**

*Patrysbos*

**Other Common Names:** Buxifolia, Buxy, Mini Pincushion, Trunculated Leucadendrum, *Kleinkopspeldekussing*.

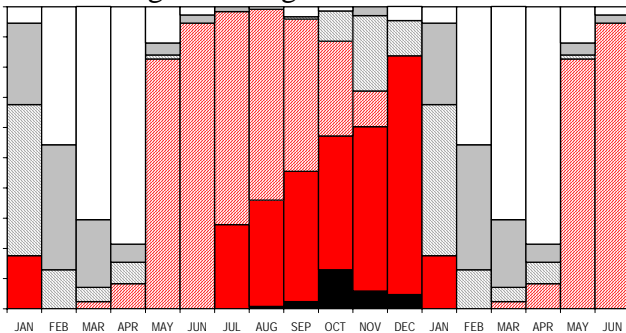
**Other Scientific Names:** *buxifolium* R.Br. 1810, *buxifolium* var. *epacridea* (Gand) 1901, *villosa* (Willd) 1825.

**981 Records**

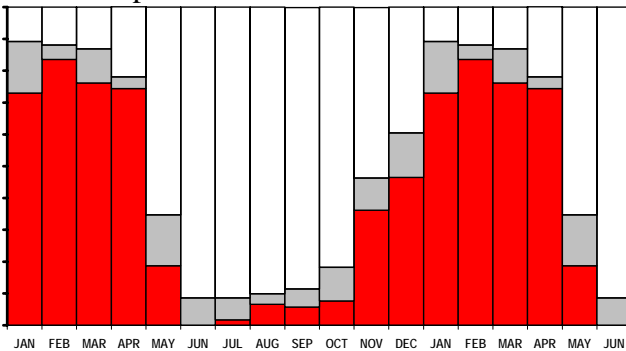
**Population** (968 records): 0.3% Abundant, 26% Common, 61% Frequent, 12% Rare, 0.2% Extinct.

**Dispersion** (858 records): 70% variable, 25% clumped, 4% widespread, 0.6% evenly distributed.

**Flowering** (915 records with: Jan 74, Feb 70, Mar 85, Apr 84, May 75, Jun 37, Jul 61, Aug 125, Sep 123, Oct 70, Nov 68, Dec 43): Buds from May to Oct; Flowering from Jul to Dec; Peak Flowering not significant; Over from Jan and Nov; Fruit from Jan to Mar; Nothing from Feb to Apr. Peak levels misleading at 99% in Aug. Historically recorded as flowering from Aug to Dec.



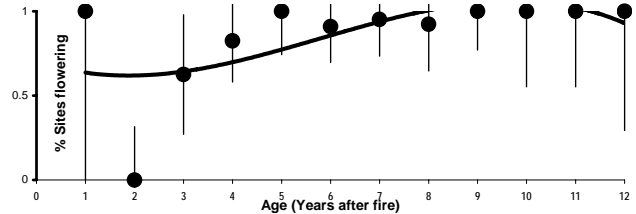
**Growth** (896 records with: Jan 74, Feb 67, Mar 84, Apr 82, May 75, Jun 35, Jul 58, Aug 121, Sep 122, Oct 66, Nov 69, Dec 43): Much from Nov to Apr; Rare not significant; None from Apr to Dec. Peak levels at 89% in Jan.



**Seedlings** (405 records): Absent in 97%: fewer seedlings than prefire adults in 4 cases, and more in 2 cases. Seedlings found in Feb, Aug (3) and Sep (2).

**Fire Survival** (48 records): 81% survived by seedlings only, 13% eliminated from the area by fires, 6% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 1 years, 50% estimated at 3 years, and 100% recorded at 5 years.



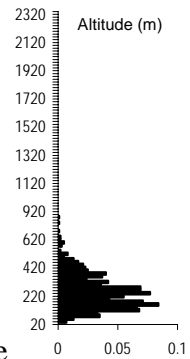
**Height** (911 records): 2% 0-0.2 m tall, 57% 0.2-1 m tall, 41% 1-2 m tall.

**Pollinators** (1 record): 100% bees or wasps.  
**Detailed Pollinators** (1 record): Honey Bee.

**Habitat:**

**Distance to Ocean** (968 records): 91% inland - further than 2 km from coast.

**Altitude** (968 records): 20 - 780 m; 140<sub>lq</sub> - 200<sub>med</sub> - 280<sub>uq</sub>m.

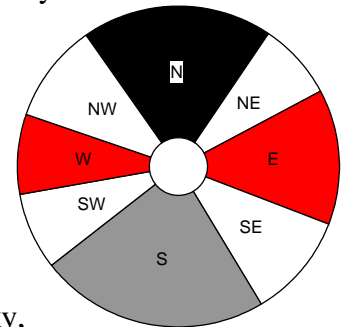


**Landform** (904 records): 89% deep soil, 9% shallow soil, 1% rocky outcrops, 0.2% riverine, 0.2% swamp.

**Slope** (904 records): 70% gentle incline, 14% steep incline, 8% platform, 7% hill top, 0.9% valley bottom.

**Aspect** (803 records):

33% South,  
29% North,  
22% East,  
16% West.



**Soil Type** (901 records):

71% sandy,  
19% loamy,  
6% gravelly,  
3% clayey, 1% rocky,  
0.8% peaty.

**Soil Colour** (898 records): 60% grey, 24% brown, 8% white, 3% yellow, 3% orange, 2% black.

**Geology** (900 records): 84% sandstone, 9% shale, 5% silcrete or ferricrete, 0.9% limestone, 0.6% Tertiary sands, 0.1% conglomerate.

**Vegetation** (959 records): 98% shrubland, 0.6% plantations, 0.4% agricultural lands, 0.2% grassland, 0.2% thicket, 0.1% woodland, 0.1% forest.

**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened A2c.  
Occurrence (Fynbos): 2 540 km<sup>2</sup> with 10% conserved and 36% lost; Occupancy: 804 km<sup>2</sup> with 12% conserved and 27% lost. Fragmentation index: 23%.

**Nature Reserves** (968 records): 27% in nature reserves.

**Habitat destruction** (877 records): 93% extensive natural habitat, 5% islands, 1% naturally linear habitats, 0.7% road verges, 0.5% naturally fragmented habitats, 0.1% corridors.

**Alien Invasive Species** (881 records): 38% *Pinus*, 23% Fabaceae (chiefly alien *Acacia*), 20% none, 15% *Hakea*, 4% Myrtaceae.

**Alien Density** (878 records): 20% alien-free, 57% sparse, 18% abundant, 5% dense, 0.7% impenetrable.

**Cultivation & Utilization:**

**Picking** (666 records): 98% no sign of picking, 2% lightly picked, 0.5% severely picked.

**Cultivation Status:** Plantings - 1 records (0.1%).

**Atlassers Notes:**

Flowers open from the centre of the inflorescence outwards (SHR93112702); Plus 5 dead (AGRY1022810); All dead (AGRY3111211); Just 2 standing dead – HC 2 - and no live ones seen (SMR99040806); Dead plants - looks like it has been very dry (VCH99040805);

**Confusing Species:** Mainly misidentified with *Diastella thymifolium subsp. thymifolium* when not in flower. Several incorrect codings as *L. truncatum*. One instance of *L. calligerum* which has a lax growth habit. Records of identification queries = 11. Records of corrected identification queries = 6.

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

**Distribution:** Add.

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## *Leucospermum hamatum* Rourke 1983 Ruitersbos Pincushion

**Other Common Names:** Hook Pincushion, Ruitersbos Dwarf Pincushion.

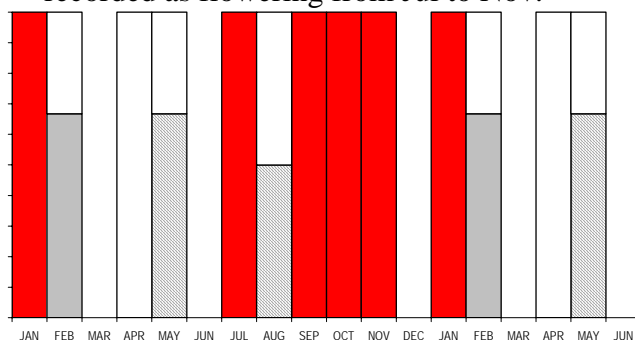
**Other Scientific Names:** *None*.

### 27 Records

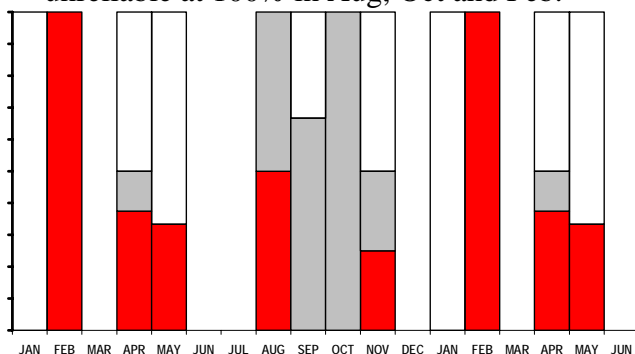
**Population** (27 records): 7% Common, 78% Frequent, 15% Rare.

**Dispersion** (25 records): 48% variable, 36% clumped, 12% evenly distributed, 4% widespread.

**Flowering** (27 records with: Jan 1, Feb 3, Mar 0, Apr 8, May 3, Jun 0, Jul 2, Aug 2, Sep 3, Oct 1, Nov 4, Dec 0): Buds not recorded; Flowering from Jan, Jul and Sep to Nov; Peak Flowering not recorded; Over from May and Aug; Fruit from Feb; Nothing from Feb to May and Aug. Peak levels unreliable at 100% from Sept to Jan. Historically recorded as flowering from Jul to Nov.



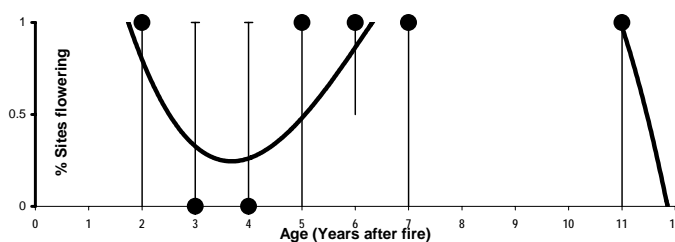
**Growth** (25 records with: Jan 1, Feb 3, Mar 0, Apr 8, May 3, Jun 0, Jul 0, Aug 2, Sep 3, Oct 1, Nov 4, Dec 0): Much from Feb to Aug and Nov; Rare from Aug to Nov; None from Nov to Jan and Apr to May and Sep. Peak levels unreliable at 100% in Aug, Oct and Feb.



**Seedlings** (8 records): Absent in 75%: more seedlings than prefire adults in 1 case. Seedlings found in 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 2 years, 50% estimated at 4-5 years, and 100% recorded at 5 years.



**Height** (27 records): 93% 0-0.2 m tall, 7% 0.2-1 m tall.

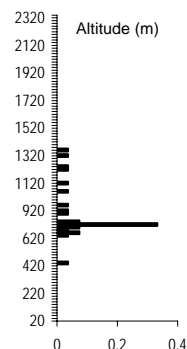
**Pollinators** : No data.

**Detailed Pollinators:** No additional data.

### Habitat:

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

**Altitude** (27 records): 420 - 1260 m; 680 *lq* - 720 *med* - 720 *uq*m.



**Landform** (27 records): 85% deep soil, 11% shallow soil, 4% rocky outcrops.

**Slope** (27 records): 70% gentle incline, 22% steep incline, 4% hill top, 4% platform.

**Aspect** (26 records): 62% North, 21% South, 12% East, 6% West.

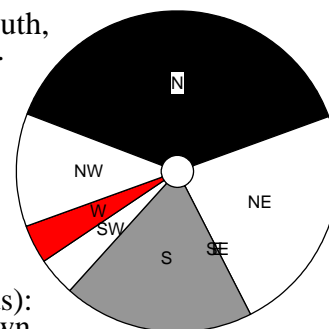
### Soil Type

(27 records): 59% sandy, 22% loamy, 7% clayey, 7% gravelly, 4% peaty.

**Soil Colour** (27 records): 41% grey, 33% brown, 11% orange, 7% black, 7% yellow.

**Geology** (27 records): 81% sandstone, 19% shale.

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



### Conservation Status and Threat:

**Red Data List Status:** Endangered

B1a(ii)c(iv)+2a(ii)c(iv).

Occurrence (Fynbos): 22 km<sup>2</sup> with 96% conserved and 28% lost; Occupancy: 20 km<sup>2</sup> with 81% conserved and 28% lost. Fragmentation index: 91%.

**Nature Reserves** (27 records): 96% in nature reserves - well conserved.

**Habitat destruction** (27 records): 96% extensive natural habitat, 4% islands.

**Alien Invasive Species** (27 records):

78% *Hakea*, 11% none, 7% *Pinus*, 4% Fabaceae (chiefly alien *Acacia*).

**Alien Density** (27 records): 11% alien-free, 85% sparse, 4% abundant.

### Cultivation & Utilization:

**Picking** (18 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:** None.

**Confusing Species:** None noted.

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

**Distribution:** Add.

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*Leucospermum harpagonatum* Rourke 1994  
**McGregor Pincushion**

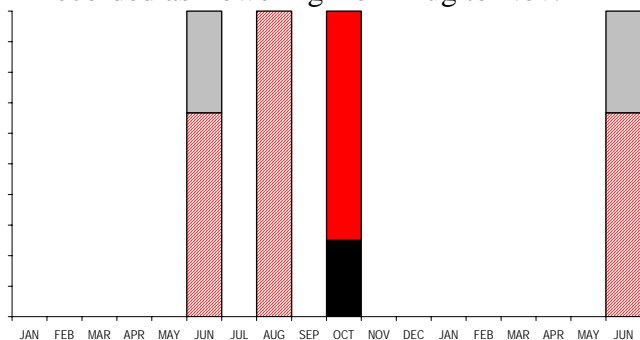
**Other Common Names:** None known.  
**Other Scientific Names:** *None*.

**8 Records**

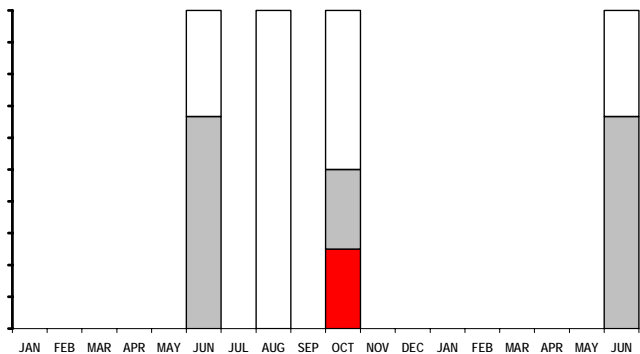
**Population** (8 records): 0% Common, 50% Frequent, 50% Rare.

**Dispersion** (8 records): 75% clumped, 25% variable.

**Flowering** (8 records with: Jan 0, Feb 0, Mar 0, Apr 0, May 0, Jun 3, Jul 0, Aug 1, Sep 0, Oct 4, Nov 0, Dec 0): Buds from Jun to Aug; Flowering from Oct; Peak Flowering from Oct; Over not recorded; Fruit from Jun; Nothing not recorded. Peak levels unreliable at 100% in Aug and Oct. Historically recorded as flowering from Aug to Nov.



**Growth** (8 records with: Jan 0, Feb 0, Mar 0, Apr 0, May 0, Jun 3, Jul 0, Aug 1, Sep 0, Oct 4, Nov 0, Dec 0): Much from Oct; Rare from Jun and Oct; None from all year round. Peak levels unreliable at 75% in Jun.



**Seedlings** (4 records): All without any seedlings present.

**Fire Survival** : No data.

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

**Height** (8 records): 100% 0-0.2 m tall.

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

**Detailed Pollinators**: No additional data.

**Habitat:**

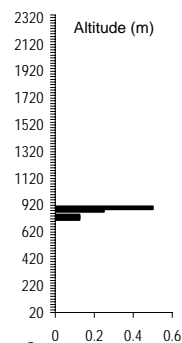
**Distance to Ocean** (8 records): 100% inland - further than 2 km from coast.

**Altitude** (8 records): 700 - 800 m; 760<sub>lq</sub> - 780<sub>med</sub> - 780<sub>uq</sub>m.

**Landform** (8 records): 63% deep soil, 25% shallow soil, 13% rocky outcrops.

**Slope** (8 records): 75% gentle incline, 13% hill top, 13% platform.

**Aspect** (7 records): 64% North, 21% West, 14% East.

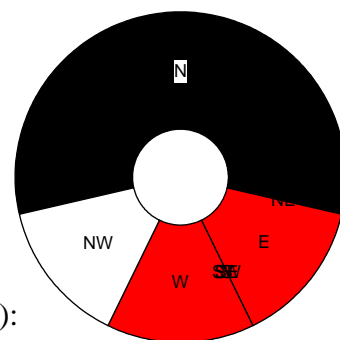


**Soil Type** (8 records): 38% sandy, 25% loamy, 25% gravelly, 13% rocky.

**Soil Colour** (8 records): 63% grey, 38% brown.

**Geology** (8 records): 100% sandstone.

**Vegetation** (8 records): 100% shrubland.



**Conservation Status and Threat:**  
**Red Data List Status:** Critically Endangered B1a(ii)c(iv)+2a(ii)c(iv), C2a(i,ii)b.

Occurrence (Fynbos): 2 km<sup>2</sup> with 0% conserved and 0% lost; Occupancy: 6 km<sup>2</sup> with 0% conserved and 0% lost. Fragmentation index invalid.

**Nature Reserves** (8 records): 0% in nature reserves - unconserved.

**Habitat destruction** (8 records): 100% extensive natural habitat.

**Alien Invasive Species** (8 records): 88% none, 13% *Pinus*.

**Alien Density** (8 records): 88% alien-free, 13% sparse.

**Cultivation & Utilization:**

**Picking** (8 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

New! (AGR93081212);

Appears to be a new population some 500 m NW of others. Partly lost to building of a new cottage but owners very keen to rehabilitate parking area and conserve about 40 plants (NAHY4060501); Cuttings taken By Fiona Powrie (SHR97101602);

**Confusing Species:** None known. Records of identification queries = 1.

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

**Distribution:** Add.

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## *Leucospermum secundifolium* Rourke 1972 Stalked Pincushion

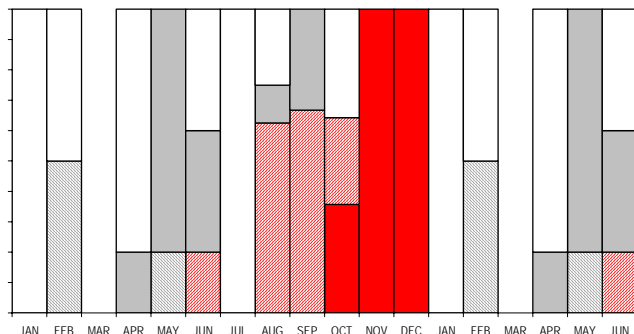
**Other Common Names:** None known.  
**Other Scientific Names:** *None*.

### 66 Records

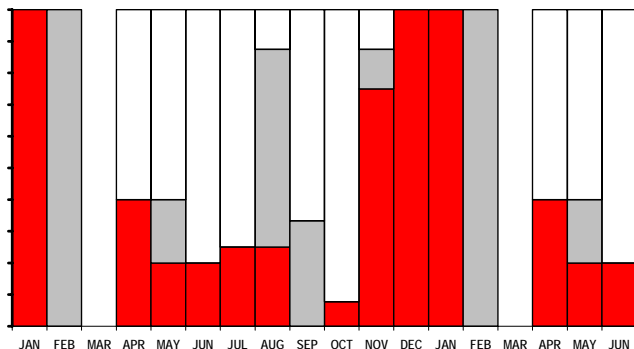
**Population** (65 records): 3% Common, 66% Frequent, 31% Rare.

**Dispersion** (59 records): 61% clumped, 32% variable, 5% evenly distributed, 2% widespread.

**Flowering** (66 records with: Jan 1, Feb 2, Mar 0, Apr 10, May 5, Jun 5, Jul 8, Aug 8, Sep 3, Oct 14, Nov 8, Dec 2): Buds from Jun and Aug to Oct; Flowering from Oct to Dec; Peak Flowering not recorded; Over from Feb and May; Fruit from Apr and May to Jun and Sep; Nothing from Jan to Apr, Jun to Aug and Oct. Peak levels at 100% in Nov to Dec. Historically recorded as flowering from early Dec.



**Growth** (65 records with: Jan 1, Feb 2, Mar 0, Apr 10, May 5, Jun 5, Jul 8, Aug 8, Sep 3, Oct 13, Nov 8, Dec 2): Much from Nov to Jan and Apr to Aug; Rare from Feb, May and Aug to Sep; None from Apr to Jul and Sep to Oct 92. Peak levels unreliable at 100% from Dec to Feb.



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

**Fire Survival** (4 records): 50% resprouted from underground boles, 25% survived by seedlings only, 25% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 3 years, 50% estimated at 7-8 years, and 100% recorded at 10 years.



**Height** (66 records): 85% 0-0.2 m tall, 15% 0.2-1 m tall.

**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

### Habitat:

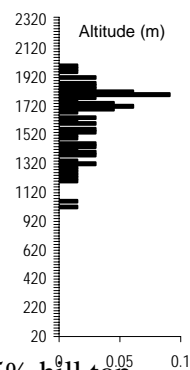
**Distance to Ocean** (66 records): 100% inland - further than 2 km from coast.

**Altitude** (66 records): 900 - 1900 m; 1320 *lq* - 1580 *med* - 1700 *uq* m.

**Landform** (66 records): 86% shallow soil, 9% deep soil, 5% rocky outcrops.

**Slope** (66 records): 64% steep incline, 27% gentle incline, 5% hill top, 5% platform.

**Aspect** (61 records): 43% South, 27% North, 25% West, 6% East.



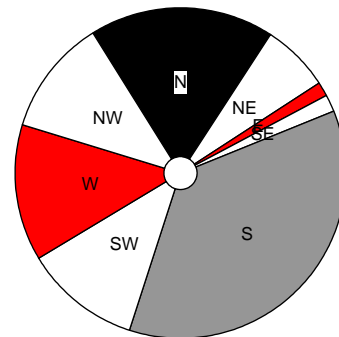
**Soil Type** (65 records):

72% sandy, 14% rocky, 9% loamy, 5% gravelly.

**Soil Colour** (64 records): 50% brown, 39% grey, 9% black, 2% white.

**Geology** (66 records): 100% sandstone.

**Vegetation** (66 records): 100% shrubland.



### Conservation Status and Threat:

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

**Occurrence** (Fynbos): 232 km<sup>2</sup> with 39% conserved and 0% lost; **Occupancy:** 95 km<sup>2</sup> with 35% conserved and 0% lost. **Fragmentation index:** 39%.

**Nature Reserves** (66 records): 48% in nature reserves.

**Habitat destruction** (65 records): 97% extensive natural habitat, 2% islands, 2% naturally linear habitats.

**Alien Invasive Species** (64 records): 100% none.

**Alien Density** (64 records): 100% alien-free.

### Cultivation & Utilization:

**Picking** (47 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Found a plant that had a spread of about 1 m by  
just over 4 m long - it was dead  
(DOA93071904);  
Some 2 dead (AGR97042611);

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

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

**Distribution:** Add.

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*Leucospermum gracile* (Salisb. ex Kn.) Rourke 1809, 1967  
**Hermanus Pincushion**

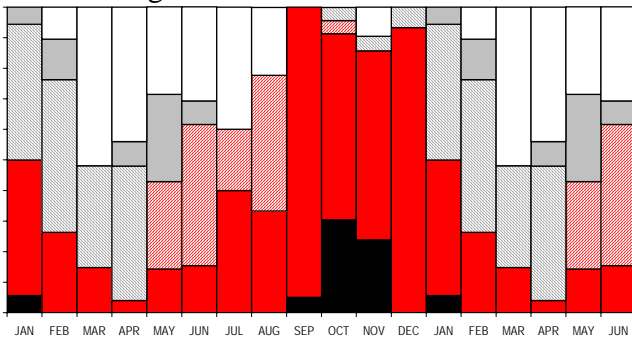
**Other Common Names:** None known.  
**Other Scientific Names:** *stenanthum* Schlecht. 1900.

**244 Records**

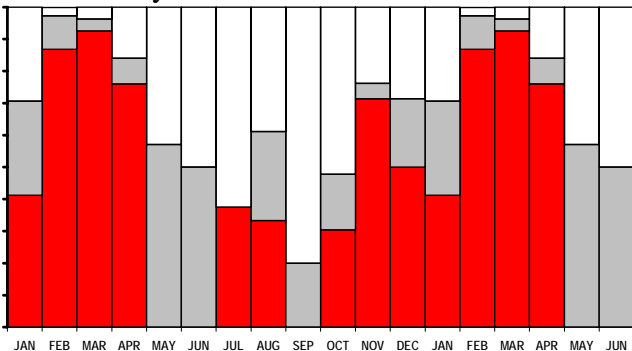
**Population** (242 records): 26% Common, 61% Frequent, 13% Rare.

**Dispersion** (230 records): 58% variable, 38% clumped, 3% widespread, 1% evenly distributed.

**Flowering** (242 records with: Jan 18, Feb 38, Mar 27, Apr 25, May 14, Jun 13, Jul 10, Aug 18, Sep 20, Oct 23, Nov 21, Dec 15): Buds from May to Aug; Flowering from Jul to Feb; Peak Flowering from Oct to Nov; Over from Jan to Apr; Fruit from May; Nothing from Mar to Aug. Peak levels at 100% from Sep to Oct and Dec. Historically recorded as flowering from Jul to Dec.



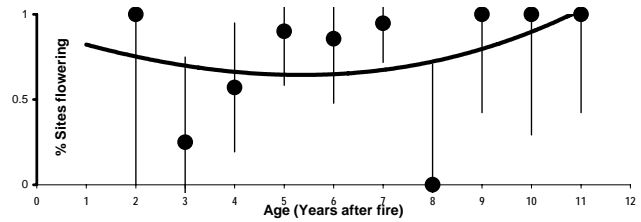
**Growth** (237 records with: Jan 17, Feb 38, Mar 27, Apr 25, May 14, Jun 12, Jul 8, Aug 18, Sep 20, Oct 23, Nov 21, Dec 14): Much from Oct to Apr and Jul to Aug; Rare from Dec to Jan, May to Jun 50 and Aug to Sep; None from May to Jan. Peak levels at 97% in Feb.



**Seedlings** (112 records): All without any seedlings present.

**Fire Survival** (7 records): 57% survived by seedlings only, 29% escaped fires in fire-safe areas, 14% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 2 years, 50% estimated at 3-4 years, and 100% recorded at 9 years.



**Height** (242 records): 48% 0-0.2 m tall, 52% 0.2-1 m tall.

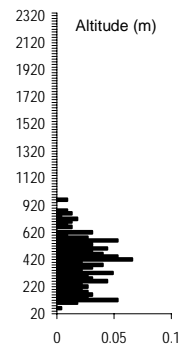
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (226 records): 75% inland - further than 2 km from coast.

**Altitude** (226 records): 40 - 860 m; 240<sub>lq</sub> - 380<sub>med</sub> - 480<sub>uq</sub>m.

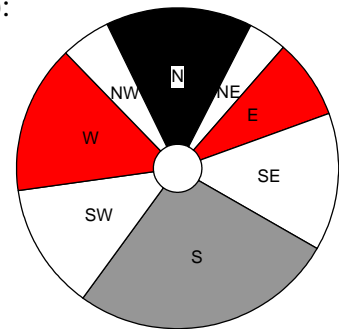


**Landform** (226 records): 69% deep soil, 26% shallow soil, 5% rocky outcrops.

**Slope** (226 records): 50% steep incline, 36% gentle incline, 12% hill top, 0.9% cliff, 0.4% valley bottom, 0.4% platform.

**Aspect** (205 records):

40% South,  
 25% West,  
 20% North,  
 15% East.



**Soil Type** (225 records):

57% sandy,  
 13% loamy,  
 13% rocky,  
 8% gravelly,  
 7% peaty, 1% clayey.

**Soil Colour** (224 records): 74% grey, 11% black, 10% brown, 4% white.

**Geology** (224 records): 98% sandstone, 1% shale, 0.9% conglomerate.

**Vegetation** (226 records): 100% shrubland.

**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened A2c.

Occurrence (Fynbos): 747 km<sup>2</sup> with 7% conserved and 30% lost; Occupancy: 187 km<sup>2</sup> with 14% conserved and 20% lost. Fragmentation index: 22%.

**Nature Reserves** (226 records): 39% in nature reserves.

**Habitat destruction** (219 records): 98% extensive natural habitat, 0.9% naturally linear habitats, 0.5% road verges, 0.5% islands, 0.5% corridors.

**Alien Invasive Species** (221 records): 48% *Pinus*, 36% none, 10% Fabaceae (chiefly alien *Acacia*), 5% *Hakea*, 1% Myrtaceae.

**Alien Density** (221 records): 36% alien-free, 56% sparse, 7% abundant, 0.9% dense, 0.5% impenetrable.

**Cultivation & Utilization:**

**Picking** (150 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Show perfect centrifugal flowering (SHRY2092902);

Tends to be in rockier areas (AGR92021806-11); *L. gracile* and *prostratum* side-by-side; I have never seen this before (PAP94111201);

**Confusing Species:** Confused with *L. saxatile* which is similar but does not overlap in

distribution at all. When not flowering it is often mistaken for *L. prostratum* (a resprouter) and rarely *L. oleifolium* (an erect plant). Possible mistakes for *Diastella divaricata subsp. montana* were anticipated but not found.

Records of identification queries = 11.

Records of corrected identification queries = 6.

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

**Distribution:** Add.

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*Leucospermum saxatile* (Salisb. ex Kn.) Rourke 1809, 1967  
**Karoo Pincushion**

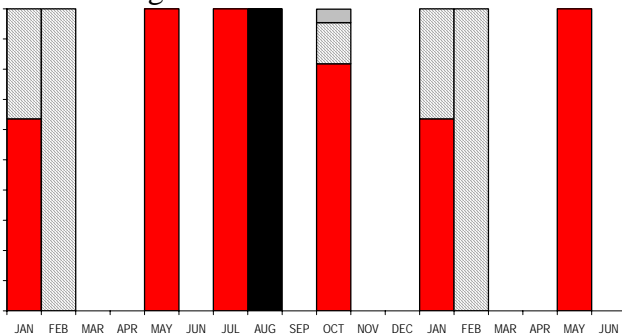
**Other Common Names:** Rock Leucadendrum.  
**Other Scientific Names:** *diffusum* R.Br. 1810.

**51 Records**

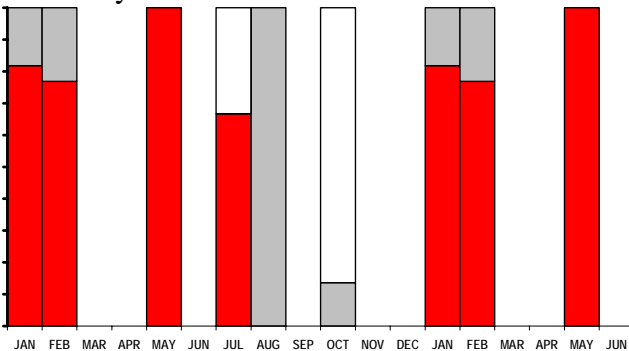
**Population** (51 records): 63% Common, 33% Frequent, 4% Rare.

**Dispersion** (49 records): 76% variable, 16% widespread, 8% clumped.

**Flowering** (51 records with: Jan 11, Feb 13, Mar 0, Apr 0, May 1, Jun 0, Jul 3, Aug 1, Sep 0, Oct 22, Nov 0, Dec 0): Buds not recorded; Flowering from Jan and May to Oct; Peak Flowering from Aug; Over from Jan to Feb; Fruit not significant; Nothing not recorded. Peak levels unreliable at 100% from May to Aug. Historically recorded as flowering from Jul to Feb.



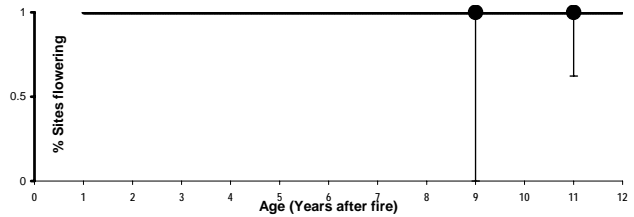
**Growth** (51 records with: Jan 11, Feb 13, Mar 0, Apr 0, May 1, Jun 0, Jul 3, Aug 1, Sep 0, Oct 22, Nov 0, Dec 0): Much from Jan to Jul; Rare from Feb and Aug; None from Jul to Oct. Peak levels unreliable at 100% from Jan to May.



**Seedlings** (26 records): Absent in 85%; fewer seedlings than prefire adults in 1 case, and more in 1 case. Seedlings found in Jul (2).

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

**Age to first flowering:** First flowers recorded at 100% at 9 years, no data from younger veld.



**Height** (51 records): 4% 0-0.2 m tall, 90% 0.2-1 m tall, 6% 1-2 m tall.

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

**Detailed Pollinators** (1 record): Monkey Beetle.

**Habitat:**

**Distance to Ocean** (51 records): 100% inland - further than 2 km from coast.

**Altitude** (51 records): 260 - 820 m; 440<sub>lq</sub> - 520<sub>med</sub> - 560<sub>uq</sub>m.

**Landform** (51 records):

53% deep soil, 25% shallow soil, 22% rocky outcrops.

**Slope** (51 records): 51% gentle incline, 37% steep incline, 6% hill top, 4% platform, 2% valley bottom.

**Aspect** (47 records): 99% North, 1% East.

**Soil Type** (51 records):

49% sandy, 25% rocky, 16% loamy, 10% gravelly.

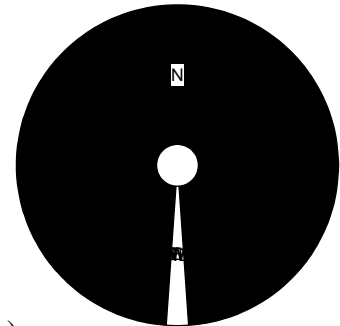
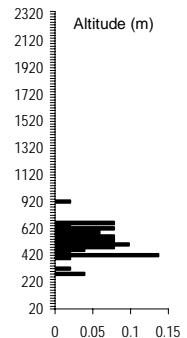
**Soil Colour** (51 records):

76% grey, 14% brown, 10% white.

**Geology** (51 records):

94% sandstone, 6% conglomerate.

**Vegetation** (51 records): 96% shrubland, 4% grassland.



**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened A2c.

Occurrence (Fynbos): 50 km<sup>2</sup> with 11% conserved and 4% lost; Occupancy: 43 km<sup>2</sup> with 8% conserved and 17% lost. Fragmentation index: 74%.

**Nature Reserves** (51 records): 2% in nature reserves - unconserved.

**Habitat destruction** (50 records):

100% extensive natural habitat.

**Alien Invasive Species** (51 records): 94% none, 6% *Pinus*.

**Alien Density** (51 records): 94% alien-free, 6% sparse.

**Cultivation & Utilization:**

**Picking** (33 records): 91% no sign of picking, 9% lightly picked.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:** None.

**Confusing Species:** Confused with *L. gracile* which is similar but does not overlap in distribution at all. Also with *L. wittebergense* (which is not a creeper) when not in flower.

Records of identification queries = 4.

Records of corrected identification queries = 3.

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

**Distribution:** Add.

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# *Leucospermum mundii* Meisn. 1856

## Langeberg Pincushion

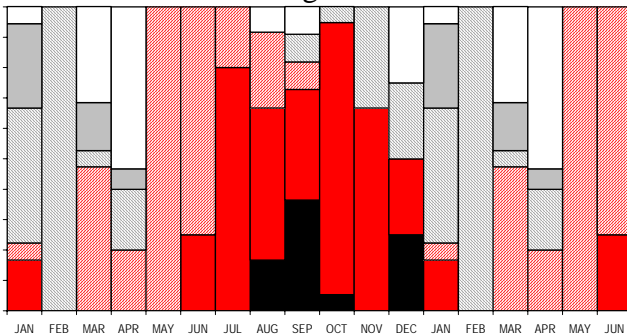
**Other Common Names:** Golden-tufted Pincushion, *Calypso Orange*.  
**Other Scientific Names:** *purpureum* Mund ex Meisn 1856.

### 142 Records

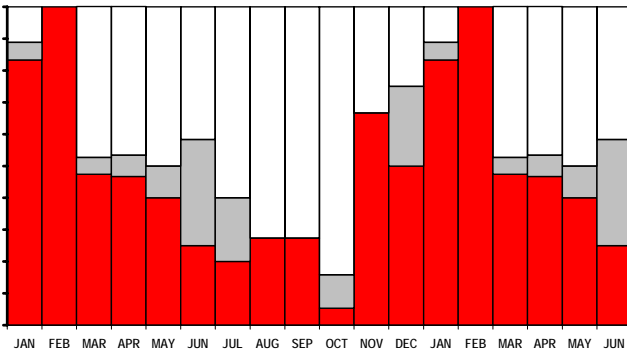
**Population** (141 records): 38% Common, 54% Frequent, 7% Rare, 0.7% Extinct.

**Dispersion** (134 records): 49% variable, 36% clumped, 10% widespread, 5% evenly distributed.

**Flowering** (141 records with: Jan 18, Feb 1, Mar 19, Apr 15, May 10, Jun 12, Jul 5, Aug 12, Sep 11, Oct 19, Nov 15, Dec 4): Buds from Mar to Aug; Flowering from Jun to Dec; Peak Flowering from Sep and Dec; Over from Nov to Feb; Fruit from Jan; Nothing from Mar to Apr and Dec. Peak levels at 100% from May to Jul. Historically recorded as flowering from Jul to Nov.



**Growth** (140 records with: Jan 18, Feb 1, Mar 19, Apr 15, May 10, Jun 12, Jul 5, Aug 11, Sep 11, Oct 19, Nov 15, Dec 4): Much from Nov to Sep; Rare from Jun to Jul and Dec; None from Mar to Dec. Peak levels unreliable at 100% in Feb.



**Seedlings** (57 records): Absent in 75%: fewer seedlings than prefire adults in 5 cases, and more in 2 cases. Seedlings found in Apr (2), Jun (2), Jul (2) and Nov.

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

**Age to first flowering:** First flowers recorded at 5 years, 50% estimated at 5-6 years, and 100% recorded at 10 years.



**Height** (140 records): 2% 0-0.2 m tall, 93% 0.2-1 m tall, 5% 1-2 m tall.

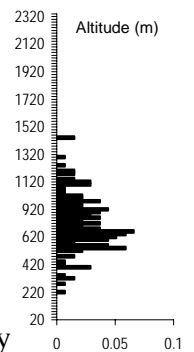
**Pollinators** (7 records): 57% birds, 29% beetles, 14% mites.

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

### Habitat:

**Distance to Ocean** (136 records): 100% inland - further than 2 km from coast.

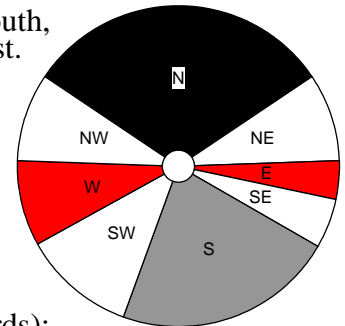
**Altitude** (136 records): 200 - 1340 m; 580<sub>lq</sub> - 680<sub>med</sub> - 800<sub>uq</sub>m.



**Landform** (136 records): 57% deep soil, 23% shallow soil, 20% rocky outcrops.

**Slope** (136 records): 52% steep incline, 38% gentle incline, 5% hill top, 4% cliff, 0.7% valley bottom.

**Aspect** (125 records): 41% North, 31% South, 18% West, 10% East.



**Soil Type** (134 records): 50% sandy, 31% loamy, 12% rocky, 4% gravelly, 1% clayey, 0.7% peaty.

**Soil Colour** (134 records): 60% grey, 29% brown, 4% black, 4% yellow, 1% white, 1% orange.

**Geology** (130 records): 94% sandstone, 6% shale.

**Vegetation** (134 records): 98% shrubland, 2% grassland.

### Conservation Status and Threat:

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

**Occurrence** (Fynbos): 531 km<sup>2</sup> with 38% conserved and 4% lost; **Occupancy:** 94 km<sup>2</sup> with 48% conserved and 1% lost. **Fragmentation index:** 15%.

**Nature Reserves** (136 records): 66% in nature reserves - well conserved.

**Habitat destruction** (134 records): 96% extensive natural habitat, 4% naturally linear habitats, 0.7% road verges.

**Alien Invasive Species** (129 records): 78% none, 13% *Pinus*, 9% *Hakea*, 0.8% Fabaceae (chiefly alien *Acacia*).

**Alien Density** (128 records): 78% alien-free, 21% sparse, 0.8% impenetrable.

**Cultivation & Utilization:**

**Picking** (93 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:**

One skeleton found died in flower  
(AGRY1020111); Only one plant alive  
(AMMY1013104).

**Confusing Species:** Confused by one team with *L. winteri* (which has rounded, not flat, flowerheads). Less frequently confused with *L. calligerum* and *erubescens* when not in flower. Once confused (wishful thinking? at Garcia's Pass) with *L. formosum*! Many typographical errors with *L. muirii*.

Records of identification queries = 24.

Records of corrected identification queries = 15.

**Variation and Taxonomy:** Rourke noted two forms of this species

- A narrow (15-40 mm, but mainly 20-35 mm), short (40-71 mm) leaf, with grey,

pubescence and a cuneiform shape occurs at Garcia's Pass in the east.

- At Tradouw's Pass in the east the leaves are bright green and hairless, broadly cuneate to obovate and broader (30-60 mm, but mainly 35-55 mm) and longer (5-88 mm).

These characters were maintained *ex situ*.

However, he rejected formally describing these as separate as the western form passes through a juvenile phase in which it is identical to the eastern form, and the characters – apart from the hairiness – overlapped too much. It was hoped that atlasers would map the forms in the intermediate region and determine if these intergraded or remained distinct to a gap or overlap, but atlasers did not provide notes on these attributes.

**Distribution:** Add.

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# *Leucospermum oleifolium* (Bergius) R.Br. 1766, 1810

## Overberg Pincushion

**Other Common Names:** Flame Pincushion, Hair-flower Leucadendrum, Mix, Small-tufted Pincushion, Tufted Pincushion, *Luisies*, *Calypso Red*.

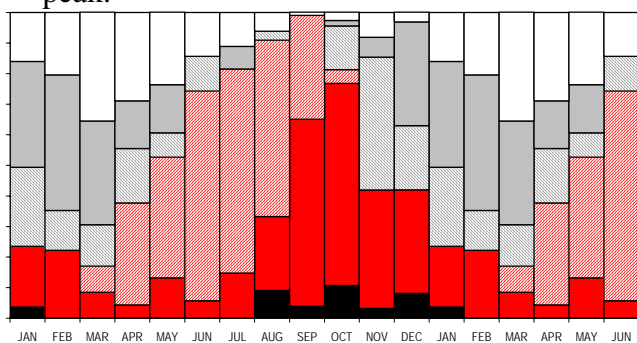
**Other Scientific Names:** *criniflora* (L. f.) 1781, *crinitum* (Thunb.) 1781, *cryptanthum* Buek 1843, *molle* R.Br. 1810, *penicillatum* Buek ex Meisn 1856, *schinzianum* Gand 1913, *venosa* (Lam) 1792.

### 718 Records

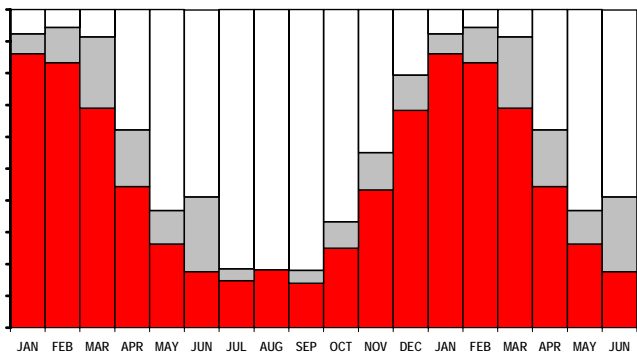
**Population** (709 records): 0.1% Abundant, 20% Common, 65% Frequent, 15% Rare, 0.1% Extinct.

**Dispersion** (667 records): 58% variable, 37% clumped, 4% widespread, 0.6% evenly distributed.

**Flowering** (711 records with: Jan 81, Feb 54, Mar 59, Apr 45, May 38, Jun 35, Jul 27, Aug 33, Sep 103, Oct 112, Nov 62, Dec 62): Buds from Apr to Sep; Flowering from Aug to Feb; Peak Flowering not significant; Over from Nov to Jan; Fruit from Dec to Mar; Nothing from Feb to May. Peak levels at 99% in Sep. Historically recorded as flowering from Aug to Jan with a Sep to Oct peak.



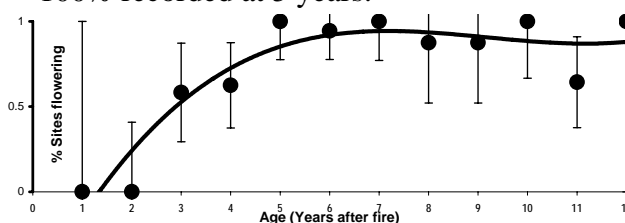
**Growth** (699 records with: Jan 79, Feb 54, Mar 58, Apr 45, May 38, Jun 34, Jul 27, Aug 33, Sep 100, Oct 108, Nov 60, Dec 63): Much from Oct to May; Rare from Mar and Jun; None from Apr to Dec. Peak levels at 94% in Feb.



**Seedlings** (304 records): Absent in 92%: fewer seedlings than prefire adults in 7 cases, and more in 5 cases. Seedlings found in Jan (3), May (2), Oct, Nov (2) and Dec (4).

**Fire Survival** (24 records): 92% survived by seedlings only, 8% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 2 years, 50% estimated at 2-3 years, and 100% recorded at 5 years.



**Height** (714 records): 2% 0-0.2 m tall, 88% 0.2-1 m tall, 10% 1-2 m tall.

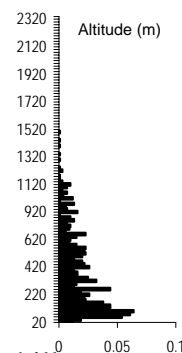
**Pollinators** (20 records): 55% bees or wasps, 10% beetles, 5% butterflies or moths, 5% flies.

**Detailed Pollinators** (11 records): Orange-breasted Sunbird (7), Honey Bee (2), Solitary Bee, Ladybird Beetle.

### Habitat:

**Distance to Ocean** (683 records): 58% inland - further than 2 km from coast.

**Altitude** (683 records): 20 - 1400 m; 100<sub>lq</sub> - 260<sub>med</sub> - 460<sub>uqm</sub>.

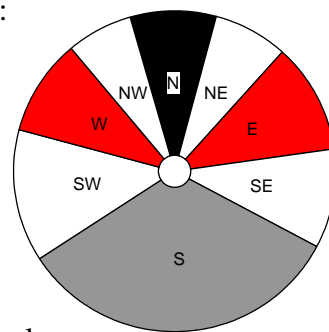


**Landform** (679 records): 67% deep soil, 24% shallow soil, 8% rocky outcrops, 0.7% swamp, 0.1% riverine.

**Slope** (679 records): 48% steep incline, 45% gentle incline, 3% hill top, 3% platform, 1% valley bottom, 0.6% cliff.

**Aspect** (640 records):

45% South,  
20% West,  
20% East,  
15% North.



**Soil Type** (678 records):

66% sandy,  
14% loamy,  
7% peaty,  
6% rocky,  
6% gravelly, 0.6% clayey.

**Soil Colour** (677 records): 71% grey, 14% brown, 10% black, 4% white, 1% orange, 0.6% red, 0.3% yellow.

**Geology** (669 records): 93% sandstone, 5% shale, 1% conglomerate, 0.3% silcrete or ferricrete, 0.3% Tertiary sands, 0.1% granite.

**Vegetation** (678 records): 99% shrubland, 0.7% plantations, 0.3% grassland, 0.3% thicket.

### Conservation Status and Threat:

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

Occurrence (Fynbos): 4 505 km<sup>2</sup> with 33% conserved and 24% lost; Occupancy:

517 km<sup>2</sup> with 58% conserved and 8% lost.  
Fragmentation index: %.

**Nature Reserves** (683 records): 64% in nature reserves - well conserved.

**Habitat destruction** (673 records):  
97% extensive natural habitat, 2% naturally linear habitats, 0.6% naturally fragmented habitats, 0.4% islands, 0.1% road verges.

**Alien Invasive Species** (669 records):  
61% none, 25% *Pinus*, 10% Fabaceae (chiefly alien *Acacia*), 2% Myrtaceae, 1% *Hakea*, 0.4% other aliens.

**Alien Density** (668 records): 61% alien-free, 33% sparse, 4% abundant, 1% dense, 0.3% impenetrable.

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

**Picking** (432 records): 100% no sign of picking, 0.5% lightly picked.

**Cultivation Status:** Plantings - 5 records (0.7%).

#### **Atlassers Notes:**

Very-small flowered (*Mimetes*-like) form (AGRY1111206); Difficult to tell from *Mimetes hirtus* - found some buds! (AGRY4031602); Looks like it is a hybrid with a *Mimetes* as there are flowerheads developing between the upper leaves (HCE96052506); Riversonderend type - very small flowerheads: looks like *M. cucullatus* (JIDY1032202);

An amazing form with big round heads orange in colour - quite a splendid flowerhead deserving subspecies/variety status! (AGRY3111305);

Hairy-leaf form (TLE95010603); Soft hairy-leaf form (TLE95010605); Two distinct forms present. One had soft and hairy leaves overall - these in cone. The other form has harder glabrous leaves with only the new growth soft and hairy these were over (TLE95010802); Both soft and hard leaf forms present (TLE95011101);

Present previously but not for last few years - veld in this part too old (AGR98053114);

Some of the plants stressed and dying (LYM99041301);

**Confusing Species:** When not flowering spuriously and illogically confused with *L. calligerum*, *parile* and *truncatum*.

Records of identification queries = 18.

Records of corrected identification queries = 3.

**Variation and Taxonomy:** Rourke suggested that the variation in this species was clinal: he sampled 3 populations and noted that involucre bract length increased with increasing altitude as follows:

Altitude 20 m:	9-16 mm long
200 m:	15-25 mm
600 m:	16-39 mm.

- At 20 m the plants were compact, rounded, with densely villous indumentum on the leaves. The involucre bracts had ciliate margins.
- At 200 m the plants are more open, and mature leaves are partly hairless.
- At 600 m the plants were open and the leaves always hairless. The involucre bracts were prominently crinite on the apex.

These characters were maintained *ex situ*.

Because of the continuous nature of the variation between the 3 samples, no formal varieties or forms were described.

Many atlassers refute this and suggest that more detailed studies are required. However, from that mentioned below, apart from atlassers provided did not provide any useful information on the variation on this species.

- A small flowered form occurs on the Riversonderend Mountains, which even at 5 m away is a perfect mimic of *Mimetes cucullatus*,
- A population with very large, rounded heads was noted on Caledon Swartberg.

**Distribution:** Add.

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## *Leucospermum winteri* Rourke 1974 Riversdale Pincushion

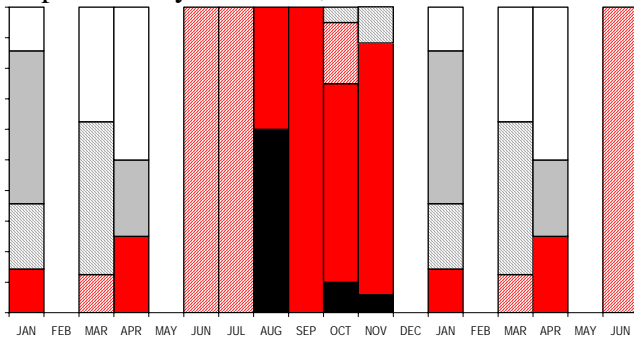
**Other Common Names:** None known.  
**Other Scientific Names:** *None*.

### 77 Records

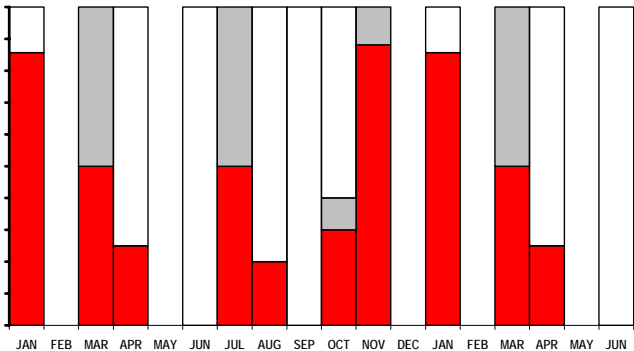
**Population** (75 records): 41% Common, 51% Frequent, 8% Rare.

**Dispersion** (72 records): 43% variable, 35% clumped, 17% widespread, 6% evenly distributed.

**Flowering** (75 records with: Jan 14, Feb 0, Mar 8, Apr 4, May 0, Jun 1, Jul 4, Aug 5, Sep 2, Oct 20, Nov 17, Dec 0): Buds from Jun to Jul; Flowering from Apr and Aug to Nov; Peak Flowering from Aug; Over from Jan to Mar; Fruit from Jan and Apr; Nothing from Mar to Apr. Peak levels unreliable at 100% from Aug to Sep. Historically recorded as flowering from spring, or based on preliminary atlas data, from Jul to Dec.



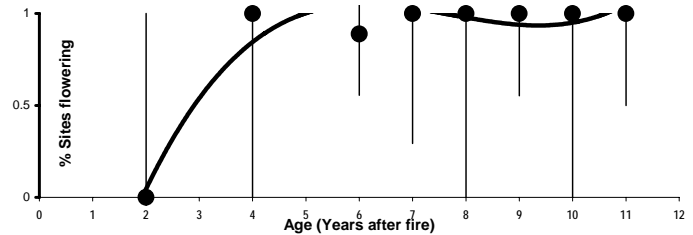
**Growth** (75 records with: Jan 14, Feb 0, Mar 8, Apr 4, May 0, Jun 1, Jul 4, Aug 5, Sep 2, Oct 20, Nov 17, Dec 0): Much from Jul to Aug and Oct to Apr; Rare from Mar and Jul; None from Apr to Jun and Aug to Oct. Peak levels unreliable at 100% in Nov.



**Seedlings** (40 records): Absent in 85%: fewer seedlings than prefire adults in 2 cases, and more in 1 case. Seedlings found in Apr (3).

**Fire Survival** (2 records): 50% survived by seedlings only, 50% escaped fires in fire-safe areas.

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



**Height** (75 records): 5% 0-0.2 m tall, 67% 0.2-1 m tall, 28% 1-2 m tall.

**Pollinators** (18 records): 61% bees or wasps, 22% flies, 17% beetles.

**Detailed Pollinators** (3 records): Honey Bee (2), Solitary Bee.

### Habitat:

**Distance to Ocean** (77 records): 100% inland - further than 2 km from coast.

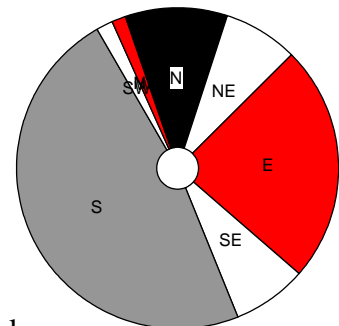
**Altitude** (77 records): 320 - 1220 m; 440 *lq* - 520 *med* - 600 *uq*m.

**Landform** (75 records): 56% deep soil, 39% shallow soil, 5% rocky outcrops.

**Slope** (77 records): 49% steep incline, 39% gentle incline, 10% hill top, 1% platform.

**Aspect** (67 records):

52% South,  
31% East,  
14% North,  
2% West.



**Soil Type** (75 records): 43% sandy, 39% loamy, 9% peaty, 5% gravelly, 3% clayey, 1% rocky.

**Soil Colour** (74 records): 55% grey, 24% black, 20% brown.

**Geology** (75 records): 97% sandstone, 1% shale, 1% granite.

**Vegetation** (75 records): 99% shrubland, 1% grassland.

### Conservation Status and Threat:

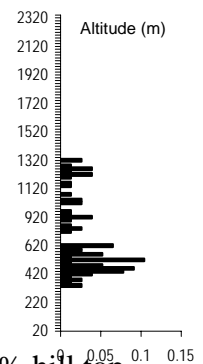
**Red Data List Status:** Near Threatened D2(i,ii).

**Occurrence** (Fynbos): 168 km<sup>2</sup> with 32% conserved and 1% lost; Occupancy: 68 km<sup>2</sup> with 24% conserved and 2% lost. Fragmentation index: 39%.

**Nature Reserves** (77 records): 44% in nature reserves.

**Habitat destruction** (75 records): 100% extensive natural habitat.

**Alien Invasive Species** (75 records): 59% none, 33% *Pinus*, 7% Fabaceae (chiefly alien *Acacia*), 1% Myrtaceae.



**Alien Density** (74 records): 59% alien-free,  
41% sparse.

**Cultivation & Utilization:**

**Picking** (39 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Pollinators: orange elongated ladybird beetle  
with 2 black spots on back (OUT96110206);  
Bees (TLE98103104); Bees, flies and ants on  
flowers (TLE98110103);

**Confusing Species:** Confused by one team  
with *L. mundii* (which has flat, not rounded,  
flowerheads). Less frequently confused with  
*L. calligerum* and (wishful thinking? at  
Garcia's Pass) with *L. formosum*!

Records of identification queries = 12.  
Records of corrected identification queries = 4.

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

**Distribution:** Add.

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