

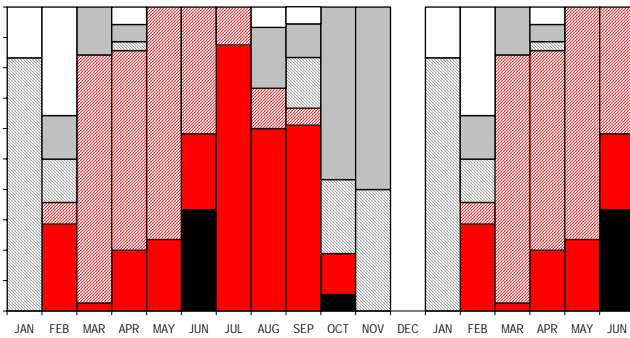
Leucadendron ericifolium R.Br. 1810
Erica-leaf Yellowbush
Heideblaargeelbos

Other Common Names: Becksides Gissonia, Ericaleaf Conebush, Ericoid Conebush.
Other Scientific Names: *angustatum* R.Br. 1810, *riparia* (Salisb. ex Knight) 1809, *uniflorum* Phill 1920.

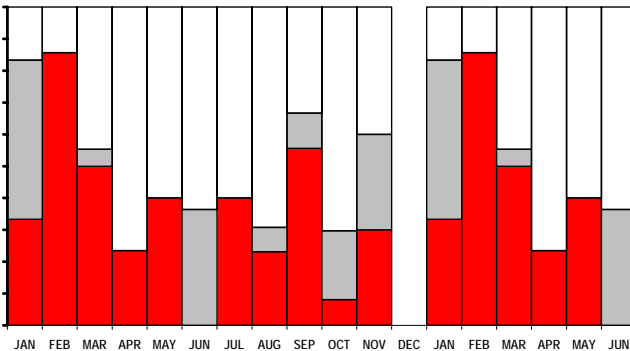
222 Records

Population (221 records): 1% Abundant, 42% Common, 49% Frequent, 7% Rare.
Dispersion (214 records): 47% variable, 41% clumped, 8% evenly distributed, 3% widespread.

Flowering (220 records with: Jan 6, Feb 14, Mar 38, Apr 35, May 17, Jun 12, Jul 8, Aug 15, Sep 18, Oct 37, Nov 20, Dec 0): Buds from Mar to Jun; Flowering from Feb and Apr to Sep; Peak Flowering from Jun; Over from Oct to Jan; Fruit from Aug and Oct to Nov; Nothing from Feb. Peak levels at 100% in Jul. Historically recorded as flowering in July, fruit ripen in Nov and are then shed.



Growth (211 records with: Jan 6, Feb 14, Mar 38, Apr 34, May 15, Jun 11, Jul 5, Aug 13, Sep 18, Oct 37, Nov 20, Dec 0): Much from Nov to May and Jul to Sep; Rare from Oct to Jan and Jun; None from Mar to Nov. Peak levels at 86% in Feb.



Seedlings (63 records): Absent in 97%: more seedlings than prefire adults in 1 case. Seedlings found in Aug.

Fire Survival (9 records): 56% survived by seedlings only, 33% eliminated from the area by fires, 11% escaped fires in fire-safe areas.

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



Height (221 records): 1% 0-0.2 m tall, 6% 0.2-1 m tall, 73% 1-2 m tall, 19% 2-5 m tall.

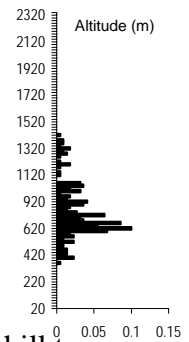
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (220 records): 100% inland - further than 2 km from coast.

Altitude (220 records): 340 - 1320 m; 600 *lq* - 660 *med* - 720 *uq*m.



Landform (220 records): 65% deep soil, 30% shallow soil, 5% rocky outcrops.

Slope (220 records): 50% gentle incline, 41% steep incline, 6% hill top, 0.9% valley bottom, 0.9% platform.

Aspect (204 records): 59% North, 14% East, 14% South, 13% West.

Soil Type (218 records):

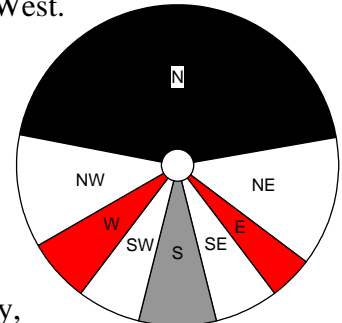
64% sandy, 17% loamy, 12% gravelly, 4% rocky, 2% clayey, 0.5% peaty.

Soil Colour (220 records):

51% grey, 35% brown, 5% orange, 5% yellow, 2% black, 1% red, 0.5% white.

Geology (220 records): 90% sandstone, 9% shale, 0.5% silcrete or ferricrete.

Vegetation (220 records): 100% shrubland.



Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 1 423 km² with 38% conserved and 5% lost; Occupancy: 217 km² with 48% conserved and 5% lost. Fragmentation index: 7%.

Nature Reserves (220 records): 65% in Nature Reserves - well conserved.

Habitat destruction (216 records): 100% extensive natural habitat, 0.5% islands.

Alien Invasive Species (219 records): 53% none, 41% *Hakea*, 4% *Pinus*, 3% Fabaceae (chiefly alien *Acacia*), 0.5% Myrtaceae.

Alien Density (218 records): 53% alien-free, 45% sparse, 2% abundant.

Cultivation & Utilization:

Picking (171 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Can be HC4 – greater than 3 m (AWA96111203, AWA99032603); Why is it so tall 2-5m when *Protea lorifolia* is only having its second lot of flowers - what gives them an early start? (VJK95032603); Appears to recover remarkably well and quickly after fire - I wonder why? (VJK98062707);

My lonely hearts protea - only one lone male (AWA96110501); Was surprised to find it in four sites so did a count: about 60, 50, 40 and 14 with maximum total of 200 plants (VJK98062707); A nice dense stand of 8-10 ha (DOA93073108); About 20 plants (DOA93090109); Area covered by plants is 170 x 100 m - according to our conservation officer this is an endangered species - looks

great to us in spite of fire 6 years ago (DOA93090109); We were surprised and delighted to find this big stand - it is twice the size and number as at Brose Grove across the Tradouw River - also has the same companions but in a much bigger populations (VJK95031002);

Confusing Species: None noted: very distinct.

Variation and Taxonomy: Robert Brown described the males as *L. ericifolium* and the females as *L. angustatum*.

Why is *riparia* 1809 not the correct name? non *L. riparia* Salter 1943.

Distribution: Add.

Storey about extinct and on herbicide labels.

INCLUDEPICTURE

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Leucadendron olens Williams 1981 Fragrant Conebush

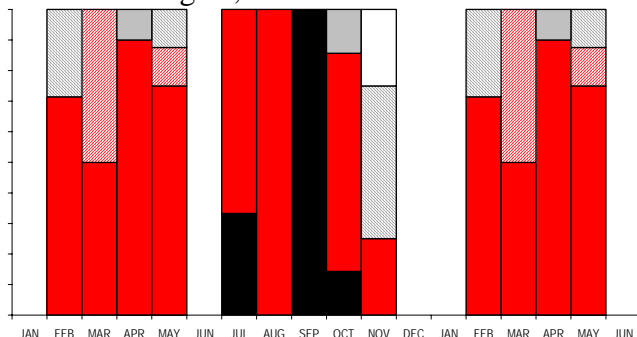
Other Common Names: Yellow Conebush.
Other Scientific Names: *None*.

57 Records

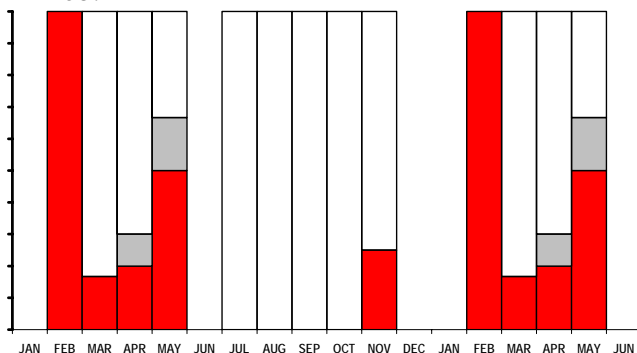
Population (57 records): 32% Common, 61% Frequent, 7% Rare.

Dispersion (55 records): 53% variable, 38% clumped, 5% widespread, 4% evenly distributed.

Flowering (56 records with: Jan 0, Feb 7, Mar 6, Apr 10, May 8, Jun 0, Jul 3, Aug 9, Sep 2, Oct 7, Nov 4, Dec 0): Buds from Mar; Flowering from Feb to Nov; Peak Flowering from Jul and Sep; Over from Feb and Nov; Fruit not significant; Nothing from Nov. Peak levels at 100% from Jul to Sep. Historically recorded as flowering from June, fruit in August, shed.



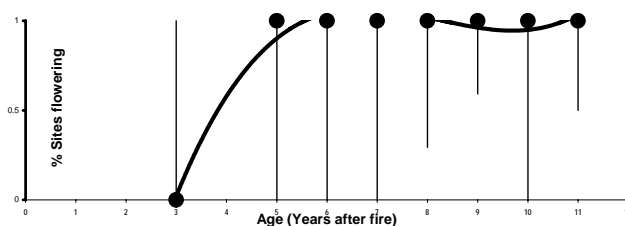
Growth (51 records with: Jan 0, Feb 7, Mar 6, Apr 10, May 6, Jun 0, Jul 3, Aug 6, Sep 2, Oct 7, Nov 4, Dec 0): Much from Nov to Feb and Apr to May; Rare from May; None from Mar Nov. Peak levels unreliable at 100% in Feb.



Seedlings (18 records): All without any seedlings present.

Fire Survival (3 records): 100% survived by seedlings only.

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



Height (57 records): 2% 0-0.2 m tall, 67% 0.2-1 m tall, 26% 1-2 m tall, 5% 2-5 m tall.

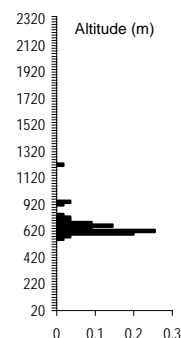
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (55 records): 100% inland - further than 2 km from coast.

Altitude (55 records): 540 - 1120 m; 580 *lq* - 620 *med* - 620 *uq*m.

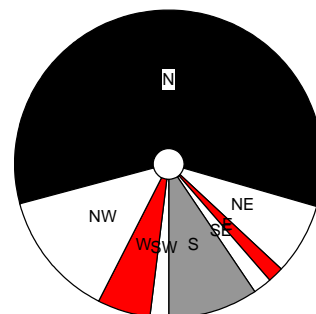


Landform (55 records): 82% deep soil, 16% shallow soil, 2% rocky outcrops.

Slope (55 records): 69% gentle incline, 27% steep incline, 2% hill top, 2% valley bottom.

Aspect (53 records):

74% North,
11% South,
8% West,
7% East.



Soil Type (55 records):

64% sandy,
18% gravelly,
16% loamy,
2% clayey.

Soil Colour (55 records):

56% grey, 31% brown, 9% orange,
2% yellow, 2% red.

Geology (55 records): 91% sandstone,
9% shale.

Vegetation (55 records): 100% shrubland.

Conservation Status and Threat:

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

Occurrence (Fynbos): 47 km² with 83% conserved and 7% lost; **Occupancy:** 31 km² with 96% conserved and 2% lost. **Fragmentation index:** 66%.

Nature Reserves (55 records): 100% in Nature Reserves - well conserved.

Habitat destruction (54 records): 100% extensive natural habitat.

Alien Invasive Species (54 records): 70% *Hakea*, 24% none, 6% *Pinus*.

Alien Density (53 records): 25% alien-free, 74% sparse, 2% abundant.

Cultivation & Utilization:

Picking (40 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlassers Notes:

Second flowering for year (AGR98102802 +
11-12);
The populations in this area appear to be well
looked after (NAH95050301);

Confusing Species: None.

Records of identification queries = 2.

Variation and Taxonomy: No variation noted.

Distribution: Male flowers very fragrant.
Add.

INCLUDEPICTURE

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Leucadendron nervosum Phill. & Hutch. 1912
Silky-ruff Conebush
Syblaartolbos

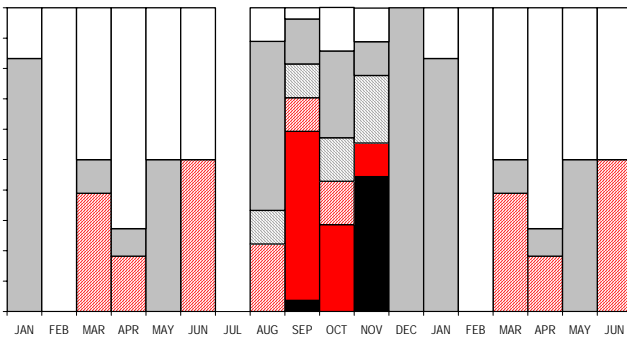
Other Common Names: Jonaskop Conebush, Silky-leaf Conebush.
Other Scientific Names: *ciliatum* EMey 1844, *concolor* var. *ciliatum* Meisn. 1856.

104 Records

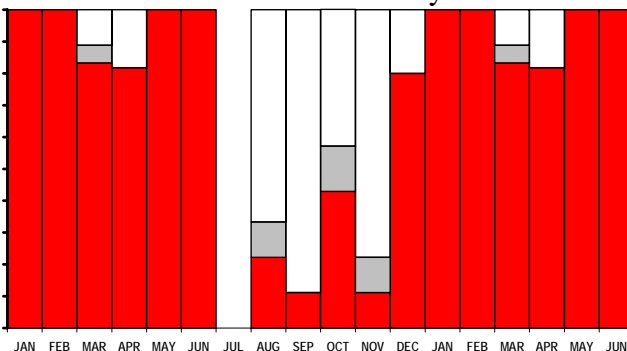
Population (66 records): 3% Abundant, 23% Common, 48% Frequent, 23% Rare, 3% Extinct.

Dispersion (55 records): 56% variable, 42% clumped, 2% evenly distributed.

Flowering (97 records with: Jan 6, Feb 1, Mar 18, Apr 11, May 2, Jun 2, Jul 0, Aug 9, Sep 27, Oct 7, Nov 9, Dec 5): Buds from Mar and Jun to Aug; Flowering from Sep to Oct; Peak Flowering from Nov; Over from Nov; Fruit from Dec to Jan, Aug and Oct; Nothing from Feb to Jun. Peak levels at 82% in Sep. Historically recorded as flowering in Sep, fruits retained.



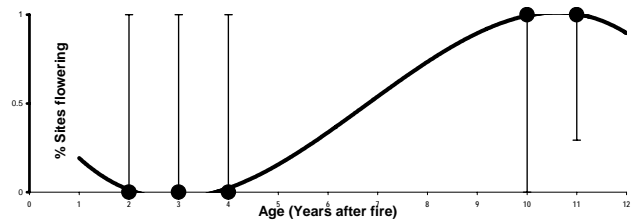
Growth (98 records with: Jan 7, Feb 1, Mar 18, Apr 11, May 2, Jun 2, Jul 0, Aug 9, Sep 27, Oct 7, Nov 9, Dec 5): Much from Dec to Aug and Oct; Rare not significant; None from Aug to Dec. Peak levels unreliable at 100% from Jan to Feb and May to Jun.



Seedlings (38 records): Absent in 95%; more seedlings than prefire adults in 1 case. Seedlings found in May.

Fire Survival : No data.

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



Height (100 records): 2% 0-0.2 m tall, 32% 0.2-1 m tall, 59% 1-2 m tall, 7% 2-5 m tall.

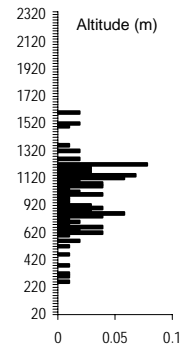
Pollinators (12 records): 50% beetles, 33% flies, 8% birds, 8% bees or wasps.

Detailed Pollinators (4 records): Scarab Beetle (2), Honey Bee, Cape Sugarbird.

Habitat:

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

Altitude (66 records): 300 - 1500 m; 860_{lq} - 1020_{med} - 1060_{uq}m.



Landform (65 records): 78% deep soil, 18% shallow soil, 3% rocky outcrops.

Slope (66 records): 58% gentle incline, 30% steep incline, 6% hill top, 5% platform, 2% valley bottom.

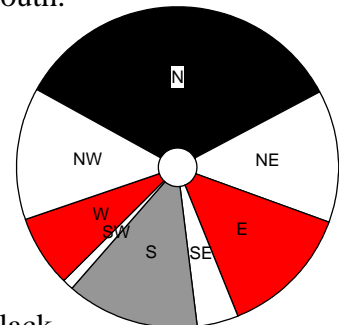
Aspect (64 records): 57% North, 18% East, 13% West, 12% South.

Soil Type (65 records): 45% sandy, 20% loamy, 20% gravelly, 11% rocky, 5% peaty.

Soil Colour (63 records): 44% grey, 33% brown, 6% black, 6% white, 5% orange, 3% yellow, 2% red.

Geology (63 records): 100% sandstone.

Vegetation (66 records): 98% shrubland, 2% plantations.



Conservation Status and Threat:

Red Data List Status: Near Threatened A4d, Langeberg form: Endangered D.

Occurrence (Fynbos): 634 km² with 37% conserved and 5% lost; **Occupancy:** 85 km² with 34% conserved and 0% lost. **Fragmentation index:** 6%.

Nature Reserves (66 records): 17% in Nature Reserves - inadequately conserved.

Habitat destruction (66 records): 91% extensive natural habitat, 8% islands, 2% naturally linear habitats.

Alien Invasive Species (63 records): 38% none, 32% *Pinus*, 29% *Hakea*, 2% Myrtaceae.

Alien Density (63 records): 38% alien-free, 57% sparse, 3% abundant, 2% impenetrable.

Cultivation & Utilization:

Picking (82 records): 78% no sign of picking, 13% lightly picked, 9% severely picked.

Cultivation Status: Plantings - 38 records (37%), Augmentations - 3 records (3%).

Atlassers Notes:

7 plants survived the fire and many seedlings emerged (FWV95051301);

All remains of plants picked lying in veld source of plants unknown (AGR99092003);

Picking was not severe on any plant but added up to a vast quantity (SMRY0041205);

Population of about 50 plants up to 2.2 m tall some starting to senesce! (NAH96030307);

About 50 plants many up to 2 m tall (NAH96031601);

Lots of beetles (>10 per head) in all the heads (prognathous striped elytra) (AGR99092006); Large numbers of beetles seen (AGRY1111212);

Confusing Species: None noted. Records of identification queries = 2.

Variation and Taxonomy: No variation noted. *L. ciliatum* is *nomen nudum*.

Distribution: Add.

INCLUDEPICTURE

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MERGEFORMAT \d

Leucadendron album (Thunb.) Fourc. 1781, 1934

Linear-leaf Conebush

Arbeitsilwerbos

Other Common Names: Peach Conebush, Strawberry-cone Conebush, Strawberry-cone Silverbush, *Aarbeisilwertolbos*.

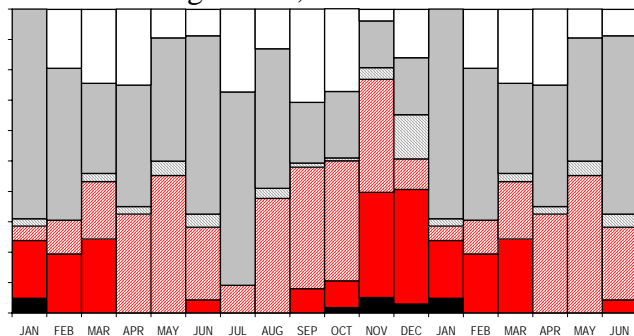
Other Scientific Names: *aurantica* Buek ex Meisn 1856, *proteoides* Phill & Hutch 1912.

672 Records

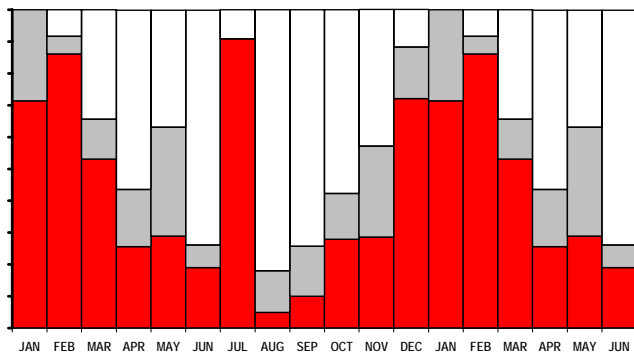
Population (665 records): 1% Abundant, 21% Common, 59% Frequent, 18% Rare, 0.2% Extinct.

Dispersion (616 records): 56% variable, 31% clumped, 8% widespread, 5% evenly distributed.

Flowering (651 records with: Jan 42, Feb 36, Mar 37, Apr 40, May 42, Jun 46, Jul 11, Aug 61, Sep 75, Oct 114, Nov 78, Dec 69): Buds from Apr to Jun and Aug to Nov; Flowering weak from Nov to Mar; Peak Flowering and Over not significant; Fruit from Jan to Oct; Nothing from Mar to Apr, Jul and Oct. Peak levels at 81% in Nov. Historically recorded as flowering in Dec, fruits retained.



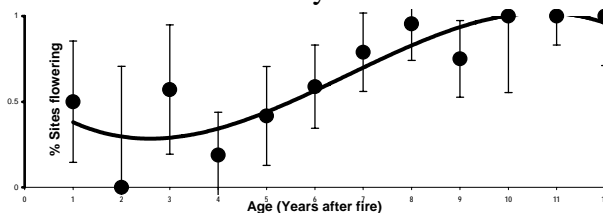
Growth (627 records with: Jan 42, Feb 36, Mar 32, Apr 39, May 38, Jun 42, Jul 11, Aug 61, Sep 70, Oct 111, Nov 77, Dec 68): Much from Oct to May; Rare from Jan, May and Nov; None from Mar to Nov. The July data appears spurious. Peak levels at 100% in Jan.



Seedlings (208 records): Absent in 75%: fewer seedlings than prefire adults in 9 cases, and more in 17 cases. Seedlings found in Mar (2), Apr, May, Jun, Jul, Aug (2), Oct (11), Nov and Dec (6).

Fire Survival (64 records): 67% survived by seedlings only, 17% escaped fires in fire-safe areas, 16% eliminated from the area by fires.

Age to first flowering: First flowers recorded at 1 years, 50% estimated at 5 years, and 100% recorded at 10 years.



Height (654 records): 11% 0-0.2 m tall, 60% 0.2-1 m tall, 28% 1-2 m tall, 1% 2-5 m tall.

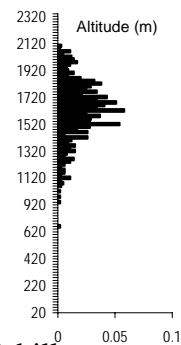
Pollinators (4 records): 50% beetles, 25% bees or wasps, 25% none observed.

Detailed Pollinators (1 record): Solitary Bee.

Habitat:

Distance to Ocean (653 records): 100% inland - further than 2 km from coast.

Altitude (653 records): 640 - 2000 m; 1380 *lq* - 1520 *med* - 1620 *uq*m.

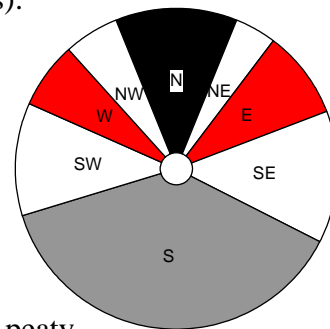


Landform (643 records): 65% shallow soil, 25% deep soil, 9% rocky outcrops, 0.3% riverine, 0.2% swamp.

Slope (646 records): 63% steep incline, 29% gentle incline, 4% hill top, 3% cliff, 0.8% platform, 0.2% valley bottom.

Aspect (616 records):

51% South,
18% North,
17% East,
15% West.



Soil Type (637 records):

47% sandy,
26% loamy,
14% rocky,
11% gravelly,
1% clayey, 0.8% peaty.

Soil Colour (637 records): 45% grey, 42% brown, 9% black, 2% orange, 0.9% white, 0.8% yellow, 0.2% red.

Geology (642 records): 98% sandstone, 2% shale.

Vegetation (646 records): 98% shrubland, 2% grassland, 0.8% wooded grassland.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 7 800 km² with 41% conserved and 3% lost; Occupancy: 616 km² with 68% conserved and 0% lost. Fragmentation index: 3%.

Nature Reserves (653 records): 75% in Nature Reserves - well conserved.

Habitat destruction (608 records): 96% extensive natural habitat, 2% naturally linear habitats, 1.0% islands, 0.7% patches,

0.3% naturally fragmented habitats,
0.2% road verges.

Alien Invasive Species (575 records):

94% none, 5% *Pinus*, 0.5% Fabaceae
(chiefly alien *Acacia*), 0.3% annual alien
grasses, 0.2% *Hakea*, 0.2% Myrtaceae.

Alien Density (569 records): 95% alien-free,
4% sparse, 0.4% abundant, 0.2% dense.

Cultivation & Utilization:

Picking (431 records): 97% no sign of picking,
2% severely picked, 1% lightly picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

This patch had a low sprawling growth form
(DOA93022005);

Females only - skeletons seen of more!
(AGR96121401);

Male plant (SGAY0123008);

Confusing Species: Confused with closely
related species *L. dregei* (fleshy, hairless,
green leaves) and silver forms of *L. rubrum*
(very distinctive female cones), but has
narrow silver leaves. A unique feature in the
genus is a swelling at the base of the
posterior perianth segment of male flowers.
Records of identification queries = 13.
Records of corrected identification queries = 6.

Variation and Taxonomy: Williams states
that it shows little variation, although
broader leaves than usual occur on the
Swartberg. Atlassers recorded a sprawling
form at [DOA93022005](#).

Distribution: Add.

INCLUDEPICTURE

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Leucadendron argenteum (L.) R.Br. 1753, 1810

Silver Tree

Witteboom

Other Common Names: Cape Silver Tree, Silver Conetree, Silver Pine Tree, Silvercone, Silvery Protea, *Silberbaum*, *Silwerboom*.

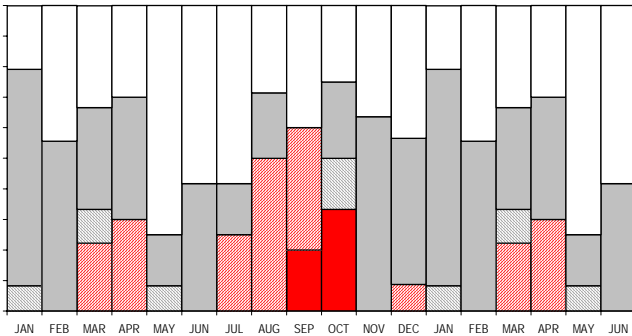
Other Scientific Names: *None*.

200 Records

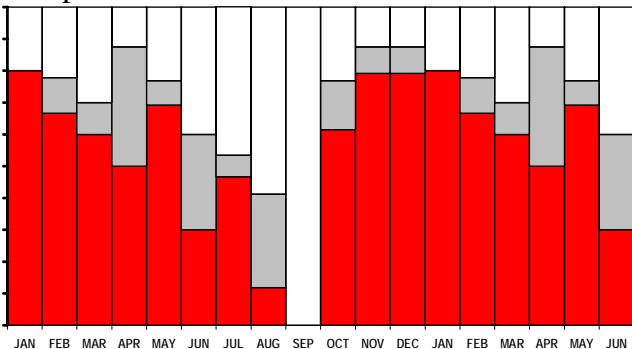
Population (162 records): 38% Common, 43% Frequent, 18% Rare, 1% Extinct.

Dispersion (147 records): 72% variable, 23% clumped, 5% widespread.

Flowering (164 records with: Jan 24, Feb 9, Mar 9, Apr 10, May 12, Jun 12, Jul 12, Aug 14, Sep 5, Oct 12, Nov 22, Dec 23): Buds from Mar to Apr and Jul to Sep; Flowering from Sep to Oct; Peak Flowering not recorded; Over not significant; Fruit from Oct to Apr, Jun and Aug; Nothing from all year round. Peak levels at 60% in Sep. Historically recorded as flowering in Sep, fruit retained.



Growth (173 records with: Jan 25, Feb 9, Mar 10, Apr 8, May 13, Jun 10, Jul 15, Aug 17, Sep 5, Oct 13, Nov 24, Dec 24): Much from Oct to Jul; Rare from Apr, Jun 30 and Aug; None from Jan to Mar and May to Oct. Peak levels at 88% from Nov to Dec and Apr.

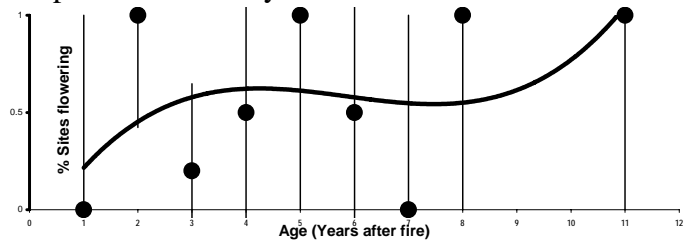


Seedlings (75 records): Absent in 95%: more seedlings than prefire adults in 2 cases. Seedlings found in Jul and Aug.

Fire Survival (7 records): 71% escaped fires in fire-safe areas, 14% survived by seedlings only, 14% resprouted from aerial trunks.

Age to first flowering: First flowers recorded at 2 years, 50% estimated at 4-6 years, and

100% recorded at 8 years. Flowering sporadic after 16 years.



Height (195 records): 0.5% 0-0.2 m tall, 7% 0.2-1 m tall, 13% 1-2 m tall, 37% 2-5 m tall, 43% taller than 5 m.

Pollinators (1 record): 100% bees or wasps.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (155 records): 81% inland - further than 2 km from coast.

Altitude (156 records): 60 - 600 m; 220_{lq} - 260_{med} - 300_{uq}m.

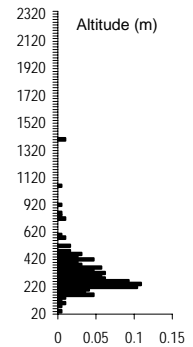
Landform (156 records):

92% deep soil, 7% shallow soil, 0.6% swamp.

Slope (156 records): 59% steep incline, 38% gentle incline, 1% hill top, 1% platform.

Aspect (155 records):

54% East, 27% South, 11% North, 8% West.



Soil Type (154 records):

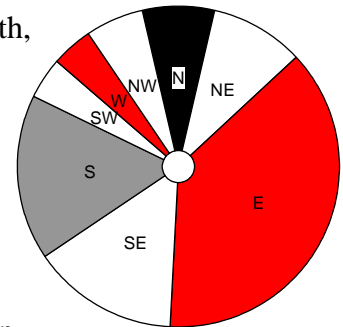
44% loamy, 33% sandy, 12% gravelly, 11% clayey.

Soil Colour (151 records):

72% brown, 12% orange, 11% grey, 2% yellow, 2% red, 0.7% black, 0.7% white.

Geology (147 records): 44% granite, 40% sandstone, 15% shale, 0.7% silcrete or ferricrete.

Vegetation (155 records): 78% shrubland, 6% thicket, 6% plantations, 5% woodland, 2% suburban, 1% forest, 0.6% grassland.



Conservation Status and Threat:

Red Data List Status: Endangered A2c.

Occurrence (Fynbos): 687 km² with 12% conserved and 74% lost; **Occupancy:** 97 km² with 47% conserved and 46% lost. **Fragmentation index:** 7%.

Nature Reserves (156 records): 83% in Nature Reserves - well conserved.

Habitat destruction (151 records):

84% extensive natural habitat, 11% islands, 3% naturally linear habitats, 1% corridors, 1% naturally fragmented habitats.

Alien Invasive Species (150 records):

41% *Pinus*, 33% Fabaceae (chiefly alien *Acacia*), 14% none, 8% Myrtaceae, 2% *Hakea*, 2% other aliens, 0.7% annual alien grasses.

Alien Density (150 records): 14% alien-free, 59% sparse, 23% abundant, 3% dense.

Cultivation & Utilization:

Picking (102 records): 100% no sign of picking.

Cultivation Status: Plantings - 36 records (18%), Augmentations - 1 record (0.5%), Escapes - 2 records (1%).

Atlassers Notes:

Many records of planted stands and augmented natural stands omitted.

Big plants escaped fire (CMO99051801); 4 big (about 5 m high) adults survived the fire (PVR93060602); Some of the trees were completely burnt - others the tops of the trees were growing (SHL96050102); Some of the trees are ancient (SHR92121301); Few adults survived the fire (WIJ98032204);

There are 4 large mature trees which may have been planted - the young ones appear to have been self-sown following the ca 1989 fire (PVR93053105); The young plants originating from 20 or so mature large trees which may have been planted - unlikely

although may have been augmented in past - but this appears natural (PVR93070401); 1 dead plant seen (AGR92041207); 2 young and 1 dead (AGR99061901); 3 more dead seen: not fynbos or similar to any other site - possibly planted or survived from planting. no recruitment (AGR99080109); One dead revealed cones, 59 trees were counted (NGF94101301); 12 plants were counted in this isolated cluster on a spur above Tafelberg Road - these ranged from a height class 4 matriarch with abundant new and old cones to a height class 3 adolescent (SHR92101801); Several dozen trees seen on W slopes of Orangetloof (WIJ93112701); Old stand now within urban gardens (AGR92012401); No signs of seedlings except for silver trees - huge and stunning and lots! good recovery expected! (AGR96081803)

Confusing Species: None.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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MERGEFORMAT \d

Leucadendron dregei Mey. ex Meisn. 1856
Summit Conebush
Oranjetolbos

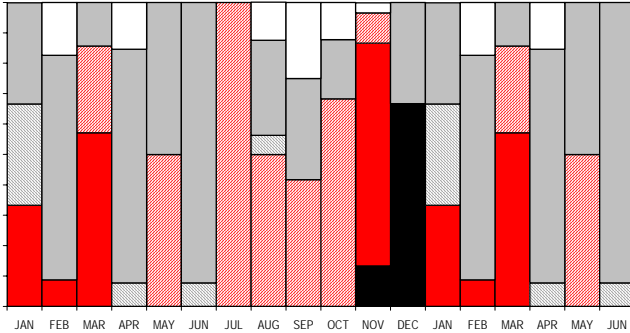
Other Common Names: Dish Conebush, Orange-cone Conebush.
Other Scientific Names: *swartbergense* (Bolus) 1909.

184 Records

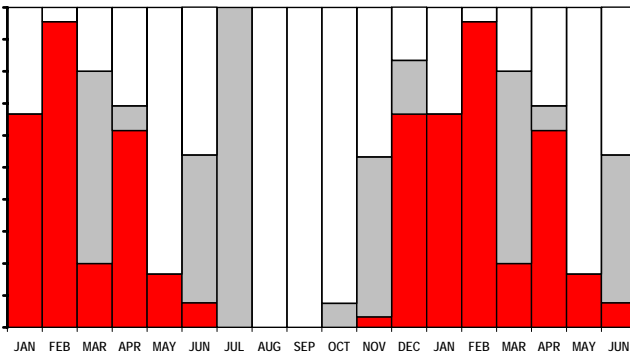
Population (180 records): 7% Common, 68% Frequent, 25% Rare.

Dispersion (160 records): 55% variable, 38% clumped, 4% widespread, 3% evenly distributed.

Flowering (171 records with: Jan 3, Feb 23, Mar 7, Apr 13, May 6, Jun 13, Jul 1, Aug 16, Sep 12, Oct 41, Nov 30, Dec 6): Buds from Mar, May, and Jul to Oct; Flowering from Mar and Nov; Peak Flowering from Dec; Over from Jan; Fruit from Jan to Feb, Apr to Oct and Dec; Nothing from Sep. Peak levels at 97% in Nov. Historically recorded as flowering from late Nov to early Dec, fruits retained.



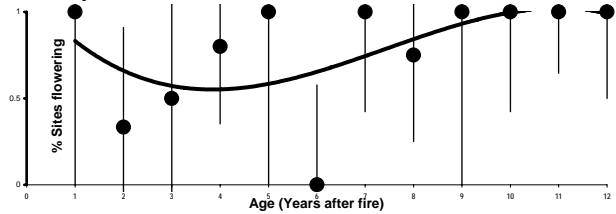
Growth (172 records with: Jan 3, Feb 22, Mar 5, Apr 13, May 6, Jun 13, Jul 6, Aug 16, Sep 12, Oct 40, Nov 30, Dec 6): Much from Dec to Apr; Rare from Mar, Jun to Jul and Nov; None from Jan, Mar to Jun and Aug to Nov. Peak levels at 96% in Feb.



Seedlings (53 records): Absent in 89%: fewer seedlings than prefire adults in 2 cases, and more in 1 case. Seedlings found in Feb, Apr and Oct.

Fire Survival (15 records): 47% escaped fires in fire-safe areas, 27% eliminated from the area by fires, 13% survived by seedlings only, 13% resprouted from underground boles.

Age to first flowering: First flowers recorded at 1 years, 50% estimated at 2-3 years, and 100% recorded at 5 years, but sporadic after 14 years.



Height (179 records): 21% 0-0.2 m tall, 75% 0.2-1 m tall, 4% 1-2 m tall.

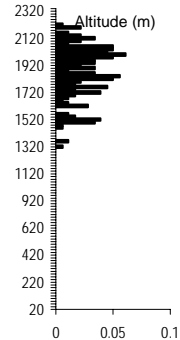
Pollinators (1 record): 100% beetles.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (179 records): 100% inland - further than 2 km from coast.

Altitude (179 records): 1200 - 2120 m; 1620 *lq* - 1780 *med* - 1900 *uq*m.

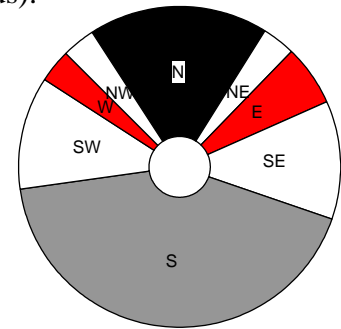


Landform (173 records): 66% shallow soil, 18% deep soil, 16% rocky outcrops.

Slope (178 records): 54% steep incline, 24% gentle incline, 15% hill top, 6% cliff, 0.6% platform.

Aspect (149 records):

55% South,
 22% North,
 13% East,
 10% West.



Soil Type (172 records): 43% sandy, 31% loamy, 19% rocky, 7% gravelly, 0.6% peaty.

Soil Colour (169 records): 46% grey, 31% brown, 21% black, 1% yellow, 0.6% white.

Geology (172 records): 98% sandstone, 2% shale.

Vegetation (177 records): 97% shrubland, 3% grassland.

Conservation Status and Threat:

Red Data List Status: Endangered

B1a(i)b(iii,iv) + 2a(i)b(iii,iv)₂
 Occurrence (Fynbos): 1 825 km² with 45% conserved and 1% lost; Occupancy: 221 km² with 77% conserved and 0% lost. Fragmentation index: 6%.

Nature Reserves (179 records): 81% in Nature Reserves - well conserved.

Habitat destruction (164 records): 95% extensive natural habitat, 2% naturally linear habitats, 2% naturally fragmented habitats, 1% islands.

Alien Invasive Species (148 records):

99% none, 0.7% *Hakea*.

Alien Density (148 records): 99% alien-free, 0.7% sparse.

Cultivation & Utilization:

Picking (128 records): 99% no sign of picking, 0.8% lightly picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Resprouting (DOA93021004); Most killed - a few survivors (OUT98030704); Appeared to be resprouting with several stems (WIJ96040808); The 4 plants are very old and have obviously escaped many fires (DOA93080509);

2 are males and 2 females (DOA93080509);

Only female plants seen (EGH92020402); Of

3 plants found on a seedling 10 mm high (DOA93021004);

Confusing Species: Confused spuriously with *L. osbornei* and *pubescens*. Anticipated confusion with *L. album* did not materialize. Records of identification queries = 7. Records of corrected identification queries = 5.

Variation and Taxonomy: Bolus described a male plant as a pincushion.

Distribution: Add.

INCLUDEPICTURE

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MERGEFORMAT \d

Leucadendron rubrum Burm.f 1768

Spinning Top

Tolletjiesbos

Other Common Names: Hillock Gisonia, Plumosum, Small-head Euryspermum, Spinning-top Conebush, Spinning-top Conebush, Top Bush, *Dikkopeierbos*, *Tolbos*, *Waretolbos*.

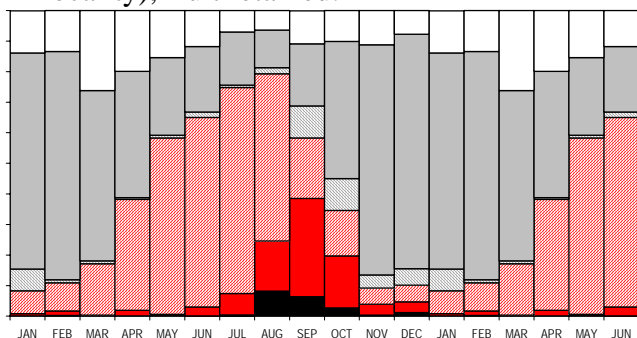
Other Scientific Names: *arcuata* (Lam.) 1791, *collina* (Salisb. ex Knight) 1809, *obliqua* (Thunb.) 1781, *parviflorum* (L.) 1771, *plumosum* (Ait.) 1789.

4659 Records

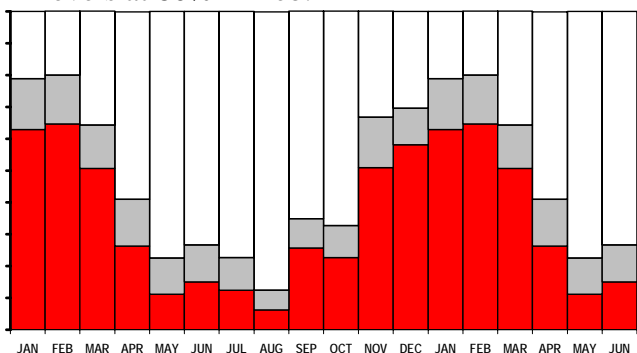
Population (4624 records): 1% Abundant, 28% Common, 51% Frequent, 19% Rare, 0.6% Extinct.

Dispersion (4113 records): 66% variable, 26% clumped, 5% widespread, 2% evenly distributed.

Flowering (4551 records with: Jan 239, Feb 403, Mar 386, Apr 361, May 319, Jun 271, Jul 242, Aug 391, Sep 389, Oct 704, Nov 587, Dec 259): Buds from Apr to Sep; Flowering from Sep; Peak Flowering and Over not significant; Fruit from Sep to Jun; Nothing from Mar to Apr. Peak levels at 81% in Aug. Historically recorded as flowering from Aug or Sep (depending on locality), fruit retained.



Growth (4489 records with: Jan 237, Feb 399, Mar 383, Apr 353, May 315, Jun 267, Jul 242, Aug 385, Sep 382, Oct 693, Nov 580, Dec 253): Much from Sep to Apr; Rare not significant; None from all year round. Peak levels at 80% in Feb.

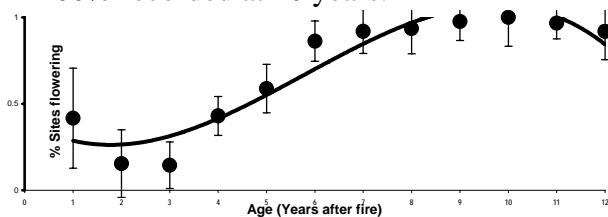


Seedlings (1886 records): Absent in 91%: fewer seedlings than prefire adults in 43 cases, and more in 42 cases. Seedlings found in Jan (5), Feb (8), Mar (17), Apr (6), May (6), Jun (8),

Jul (3), Aug (7), Sep (2), Oct (9), Nov (8) and Dec (6).

Fire Survival (299 records): 73% survived by seedlings only, 14% escaped fires in fire-safe areas, 11% eliminated from the area by fires, 1% resprouted from underground boles.

Age to first flowering: First flowers recorded at 1 years, 50% estimated at 4-5 years, and 100% recorded at 10 years.



Height (4584 records): 3% 0-0.2 m tall, 39% 0.2-1 m tall, 53% 1-2 m tall, 5% 2-5 m tall, 0.1% taller than 5 m.

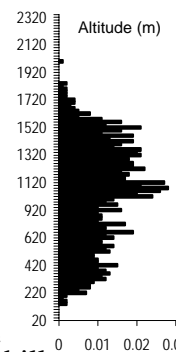
Pollinators (26 records): 46% wind, 23% beetles, 19% birds, 4% bees or wasps, 4% flies, 4% none observed.

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

Habitat:

Distance to Ocean (4613 records): 100% inland - further than 2 km from coast.

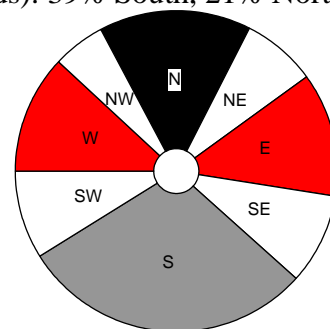
Altitude (4613 records): 60 - 1940 m; 640 *lq* - 960 *med* - 1180 *uq*m.



Landform (4594 records): 60% deep soil, 36% shallow soil, 4% rocky outcrops, 0.2% riverine, 0.1% swamp.

Slope (4599 records): 48% gentle incline, 38% steep incline, 7% hill top, 4% platform, 1% valley bottom, 0.7% cliff, 0.0% dunes.

Aspect (4126 records): 39% South, 21% North, 21% East, 19% West.



Soil Type (4573 records):

42% sandy, 29% loamy, 12% rocky, 12% gravelly, 5% clayey, 0.3% peaty.

Soil Colour (4569 records):

56% brown, 30% grey, 6% orange, 3% yellow, 2% black, 2% white, 1% red.

Geology (4436 records): 75% sandstone, 12% shale, 10% granite, 2% silcrete or ferricrete, 0.4% Tertiary sands, 0.4% conglomerate, 0.0% limestone, 0.0% basalt.

Vegetation (4596 records): 97% shrubland, 1% plantations, 0.4% thicket, 0.3% wooded grassland, 0.2% agricultural lands,

0.2% grassland, 0.1% woodland,
0.0% forest.

Conservation Status and Threat:

Red Data List Status: LC, Cape Peninsula:
Endangered A2c.

Occurrence (Fynbos): 38 849 km² with 22% conserved and 18% lost; Occupancy: 4 671 km² with 34% conserved and 9% lost. Fragmentation index: 4%.

Nature Reserves (4613 records): 37% in Nature Reserves.

Habitat destruction (4478 records): 91% extensive natural habitat, 5% islands, 2% naturally linear habitats, 1.0% road verges, 0.6% naturally fragmented habitats, 0.2% corridors, 0.1% patches.

Alien Invasive Species (4377 records): 67% none, 16% *Pinus*, 8% *Hakea*, 8% Fabaceae (chiefly alien *Acacia*), 1% Myrtaceae, 0.3% other aliens, 0.1% annual alien grasses.

Alien Density (4354 records): 67% alien-free, 26% sparse, 6% abundant, 1% dense, 0.0% impenetrable.

Cultivation & Utilization:

Picking (3323 records): 97% no sign of picking, 2% lightly picked, 0.8% severely picked.

Cultivation Status: Plantings - 9 records (0.2%), Augmentations - 2 records (0.04%), Escapes - 2 records (0.04%).

Witch's Broom Infestation: 2 records (0.04%).

Atlasers Notes:

Variation:

Few examples of dwarf plants found - anything exciting? (DFJ99070302 + 3 + 5); Dark green silvery leaves! (AGR99090809);

Corrections:

Plants 3.5 m high (JAG95090301); Leaves with 3 pointed teeth - about 2 mm deeply incised! (GEDY0062404); Leaves with multiple teeth at top (but not *Leucospermum* glands - mucros) - no cones though! (WIJ97080904);

Phenology:

Looks like a second flowering this season? (AGR97060102); Appears to be flowering for the second time this year (AGRY1091209); With aborted flowers (AMMY1012913);

Damage:

Bushes broken by baboons (APE92100302); Squirrels could have done some of the picking seen - cones removed! some small branches had definitely been picked by humans (LYM94041001); Baboon damage - broken & cones picked (LYM97011602); Baboon damage - cones ripped apart (LYM98091201); All hacked in places (APE92071604); Picking for firewood (DJL97100110); Young plants round where one had been chopped down (the chopped one was also sprouting from just above ground level) (SMR99120109);

Flowering:

Only male flowers found but one week later i saw at least one small female buds (RDF95082001); Male in full profusion (WMP94092506);

Deaths:

Hardening - off - much death of new shoots (AGR92022101); All dead female - no young seen! (AGR95100607); plus 1 dead plant (AGR96051007, AGRY1020714, AGRY4110604, COJ98081001); No young seen for 3 species! - may be too early - no rains. But contrast with previous plot! - probably aspect (vs south for #12) killed them because of lack of rains since Easter (AGR96060513); 1/2? dead! (AGR97022616); 1 large dead female seen - no sign of any others (AGRY0081231); Lot of dead plants seen - only a few still alive (drought?) (AGRY1020812); 40% dead - drought? (AGRY2102605 + 06); A lot of dead (senescent?) female plants (AKS95111407); 1 Dead (ASP94081814); Some dead plants: single live was moribund (ASP94072710); Moribund : lots more dead (ASP94072713); Looks as if female plant is dying (AWA99100405); Much stressed - some plants dead (DJLY0021112); Many plants dying from roots upwards (OUT97052404); Many plants dying (OUT97052409 + 10); Lots of die-back (OUT98040409); Wide sweep of dieback down centre of valley (OUT99050705); Die back (OUT99100206); Several dead plants noted (same fungus as being used to kill *Hakea sericea*?) (WEL98042001); Some dying (WIJY1010404);

Only one seedling next to dead canopy of a large (>1m) female plant (MHO93031001);

Demography:

Male (AGRY1021414 + 18, AGRY4031104, AGRY4092603, ASP93061316); One male (AGRY0100514); One male only - looked for more without success (AWA99051901); Again the lonely hearts plant (AWA98122203); One senescent male only (AKS95111404); Only 2 males seen (AGRY1030621); 4 males seen (RDF95082001); Only male plants (VCH98121707); 20 or 30 plants - all male (SMR97100110); Female (AGRY1021419, AGRY4031305, AKS95111405); Both females (AGR96051007); All females (APE92101805); 3 adult plants (OUTY1032304); 1 male and 1 female (PAT94123106);

Picking:

Heaps of old leaves point to picking (AWA99100807); Neat cutting of stems (DFJ97092103); Almost all females were harvested (SMR99041408);

Plantings:

Apparently used for restoration of quarry - only seen in quarry: no adults just lots of young plants. Also lots of dead (ca 60%) (AGRY0112202); They have penetrated the Marloth N. R. by wind distribution because they were grown commercially in the adjacent fields up till 4 years ago when they all died (VJK94111901);

Other:

Orange Breasted Sunbirds active amongst plants - seem to prefer it to all other proteaceae in locality (DOA92111307);

Confusing Species: A very distinctive species.

Isolated males not in flower were occasionally confused with *L. pubescens*. Silver forms were confused with *L. album*, but should not have been with the distinctive

wind pollinated male and female
flowerheads.

Records of identification queries = 25.

Records of corrected identification queries = 5.

Variation and Taxonomy: There are minor
local variations in the size of features and
pubescence.

- Botterberg is much more pubescent than
normal.
- North Swartberg Pass has fewer, shorter
basal bracts on female plants.

- Atlassers recorded silver forms at
[AGR99090809](#).
- Atlassers recorded dwarf forms at
[DFJ99070302 + 3 + 5](#).

Distribution: Add.

INCLUDEPICTURE

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MERGEFORMAT \d

Leucadendron glaberrimum subsp. *glaberrimum* (Schltr.) Compton 1900, 1931
Common Oily Conebush
Botterpitjie

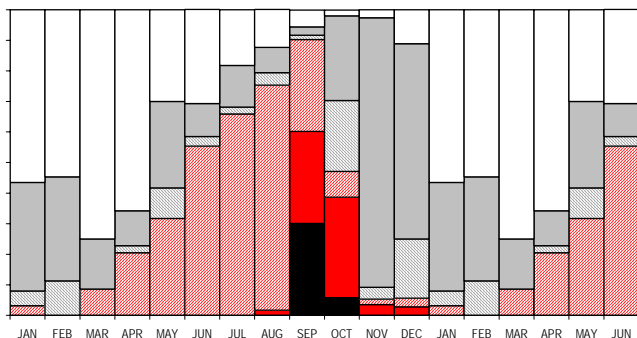
Other Common Names: *Oliebos, Perdepitjie.*
Other Scientific Names: *None.*

1359 Records

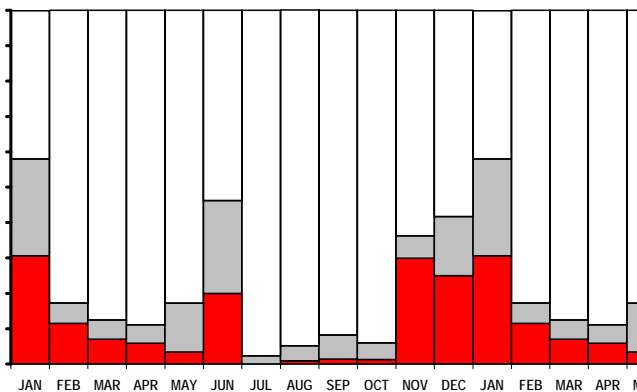
Population (1349 records): 0.4% Abundant, 26% Common, 59% Frequent, 14% Rare, 0.4% Extinct.

Dispersion (1255 records): 74% variable, 21% clumped, 5% widespread, 0.9% evenly distributed.

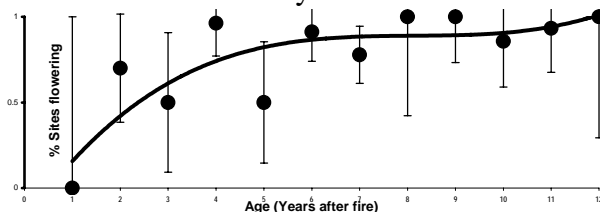
Flowering (1332 records with: Jan 62, Feb 53, Mar 128, Apr 307, May 60, Jun 65, Jul 44, Aug 121, Sep 73, Oct 155, Nov 228, Dec 36): Buds from Apr to Sep; Flowering from Sep to Oct; Peak Flowering from Sep; Over from Oct; Fruit from Oct to Feb and May; Nothing from Jan to Jun. Peak levels at 92% in Sep. Historically recorded as flowering from Sep to Oct, fruit ripen from Dec to Feb and are shed.



Growth (1295 records with: Jan 62, Feb 52, Mar 128, Apr 307, May 58, Jun 65, Jul 43, Aug 117, Sep 73, Oct 150, Nov 204, Dec 36): Much from Nov to Jan and Jun; Rare from Jan and Jun; None from all year round. Peak levels at 58% in Jan.



Age to first flowering: First flowers recorded at 1 years, 50% estimated at 3-4 years, and 100% recorded at 8 years. Some evidence for senescence after 16 years.



Height (1339 records): 13% 0-0.2 m tall, 81% 0.2-1 m tall, 6% 1-2 m tall.

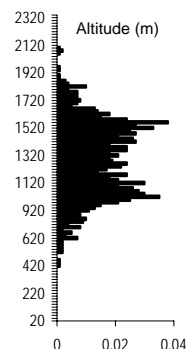
Pollinators (11 records): 73% beetles, 9% butterflies or moths, 9% bees or wasps, 9% flies.

Detailed Pollinators (1 record): Monkey Beetle.

Habitat:

Distance to Ocean (1352 records): 100% inland - further than 2 km from coast.

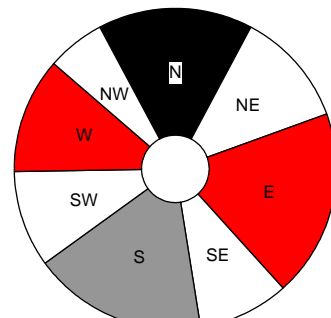
Altitude (1352 records): 400 - 2000 m; 940_{lq} - 1160_{med} - 1380_{uq}m.



Landform (1342 records): 66% deep soil, 29% shallow soil, 5% rocky outcrops, 0.4% riverine.

Slope (1338 records): 57% gentle incline, 23% steep incline, 10% platform, 5% hill top, 4% valley bottom, 0.9% cliff.

Aspect (1182 records): 29% East, 27% South, 24% North, 20% West.



Soil Type (1343 records):

51% sandy, 20% gravelly, 15% loamy, 12% rocky, 2% clayey.

Soil Colour (1337 records):

46% brown, 28% grey, 9% yellow, 8% orange, 6% white, 2% red, 0.2% black.

Geology (1309 records): 81% sandstone, 18% shale, 0.8% Tertiary sands, 0.2% silcrete or ferricrete, 0.1% conglomerate, 0.1% granite.

Vegetation (1340 records): 99% shrubland, 0.4% grassland, 0.4% agricultural lands, 0.2% plantations.

Conservation Status and Threat:

Red Data List Status: Least Concern.
 Occurrence (Fynbos): 3 246 km² with 14% conserved and 8% lost; Occupancy: 1 157 km² with 25% conserved and 5% lost. Fragmentation index: 29%.

Seedlings (483 records): Absent in 95%: fewer seedlings than prefire adults in 9 cases, and more in 2 cases. Seedlings found in Jan (4), Jul, Sep, Oct, Nov (2) and Dec (2).

Fire Survival (61 records): 52% survived by seedlings only, 21% eliminated from the area by fires, 15% resprouted from underground boles, 10% escaped fires in fire-safe areas, 2% resprouted from aerial trunks.

Nature Reserves (1352 records): 24% in Nature Reserves.

Habitat destruction (1327 records): 92% extensive natural habitat, 5% islands, 3% naturally linear habitats, 0.3% naturally fragmented habitats, 0.1% road verges, 0.1% corridors.

Alien Invasive Species (1293 records): 84% none, 14% *Pinus*, 0.9% Fabaceae (chiefly alien *Acacia*), 0.8% Myrtaceae, 0.6% other aliens.

Alien Density (1286 records): 84% alien-free, 14% sparse, 1% abundant, 0.5% dense, 0.2% impenetrable.

Cultivation & Utilization:

Picking (792 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Variation in size and habit:

Very small and stunted (JAT96093004); Single stem sprawling (WIJ96072803); Single stem reddish fairly erect (WIJ96072807); Sprawling habit in this and all other plots today (WIJ98031202);

Upright bushes unlike the sprawling ones seen at higher altitudes (WIJ98031301);

Up to almost 2 m (WIJ98031315); Spindly plants to 3 m tall! (AGRY3112734);

Multi-stemmed (GEDY0112109); Extensive branching at base (WIJ94111411); Resprouted either below or at ground level (WIJ95042204); Resprouting? (WMPY0111204);

Plants differ from populations to north (e.g. SHR9510070102) as follows: (1) Decumbent - erroneously interpreted as resprouting from rootstock: but corrected -(2) Later flowering (3) Smaller leaves (SHR95100803);

Variation in hairiness:

Hairy with big cones (AGR99032619); Hairy! (AGR99032620); Very hairy old leaves (AGRY4110704);

Gun-metal grey (AGRY4110612);

Survival:

About 5% survived the fire - not burned in middle (AGR99032822);

Most plants dead (AGRY0091508); 3 dead to every one live (AGRY0093014); Dead (AGRY0112337); 2 plants dead (SAS98080804);

Miscellaneous:

A Blue Bottle was sitting on flowers (AWAY0102512); Ants (WMP99042608);

In cultivated lands with *Protea magnifica* - But not being cultivated (WMPY0042912);

Confusing Species: Considerable confusion existed in identifying the two subspecies of *L. glaberrimum*. Some 85% of queries and misidentifications of this species were due to inability or reluctance to achieve this.

Almost all of these were in the KoueBokkeveld Mountains around the Olifants River where the two subspecies intergrade, and most were the result of the more colourful subspecies *erubescens* being drab when not in flower, and the obvious features not being present during new growth. An anticipated problem with *L. loranthifolium* (the most reliable feature is the colour of the florets, available for only four months of the year) was encountered outside of the flowering season. A few inexplicable misidentifications with *L. arcuatum* (a broad-leaved resprouter)

Records of identification queries = 127.
Records of corrected identification queries = 88.

Variation and Taxonomy: Originally described only in 1900 as a *Leucospermum*. This is a variable species, but none has been formally typified.

- Decumbent and erect forms occur, the erect forms tend to occur in the center of the distribution.
- Pubescent forms occur on the Baviaansberg.

Distribution: Add.

INCLUDEPICTURE

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Leucadendron glaberrimum subsp. *erubescens* Williams Red Oily Conebush

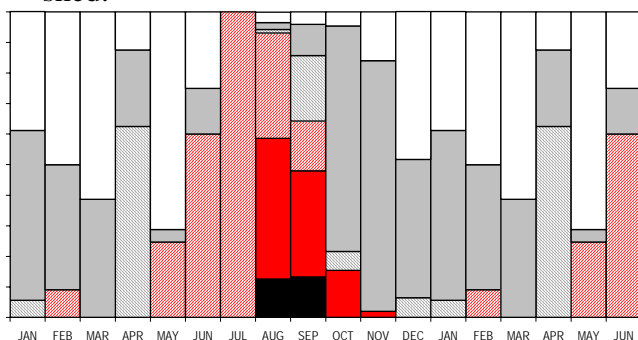
Other Common Names: None known.
Other Scientific Names: *None*.

634 Records

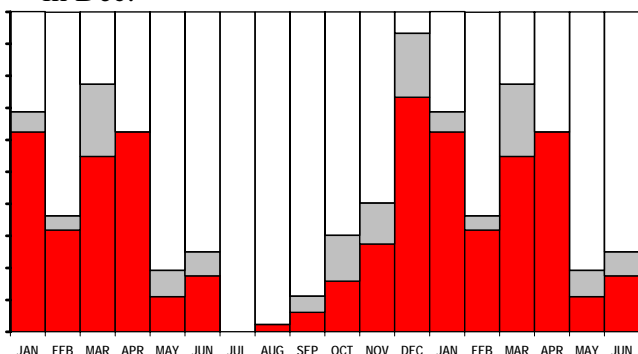
Population (629 records): 0.8% Abundant, 44% Common, 46% Frequent, 9% Rare, 0.2% Extinct.

Dispersion (595 records): 79% variable, 18% clumped, 2% widespread, 0.7% evenly distributed.

Flowering (624 records with: Jan 18, Feb 22, Mar 31, Apr 8, May 73, Jun 40, Jul 1, Aug 87, Sep 98, Oct 65, Nov 150, Dec 31): Buds from May to Aug; Flowering from Aug to Sep; Peak Flowering not significant; Over from Sep; Fruit from Oct to Apr; Nothing from Dec to Jun. Peak levels at 94% in Aug. Historically recorded as flowering from Aug to Sep, fruits ripen 3 months later and are shed.



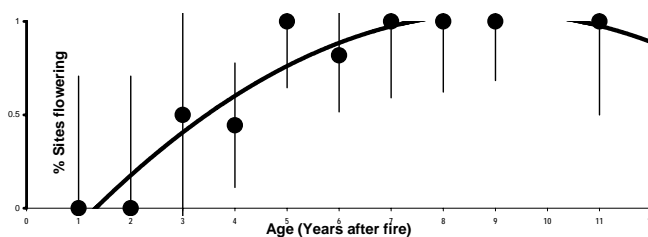
Growth (618 records with: Jan 16, Feb 22, Mar 31, Apr 8, May 73, Jun 40, Jul 1, Aug 87, Sep 98, Oct 63, Nov 149, Dec 30): Much from Nov to Apr; Rare from Mar and Dec; None from Jan to Nov. Peak levels at 93% in Dec.



Seedlings (259 records): Absent in 97%; more seedlings than prefire adults in 4 cases. Seedlings found in Jan and Nov (3).

Fire Survival (54 records): 81% survived by seedlings only, 15% escaped fires in fire-safe areas, 4% eliminated from the area by fires.

Age to first flowering: First flowers recorded at 1 year, 50% estimated at 3-4 years, and 100% recorded at 5 years.



Height (627 records): 3% 0-0.2 m tall, 76% 0.2-1 m tall, 21% 1-2 m tall, 0.2% 2-5 m tall.

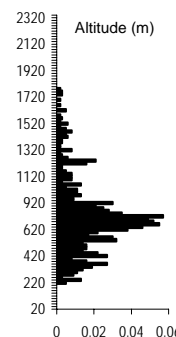
Pollinators (21 records): 81% beetles, 10% bees or wasps, 10% flies.

Detailed Pollinators (5 records): Monkey Beetle (3), Solitary Bee, Green Beetle.

Habitat:

Distance to Ocean (631 records): 100% inland - further than 2 km from coast.

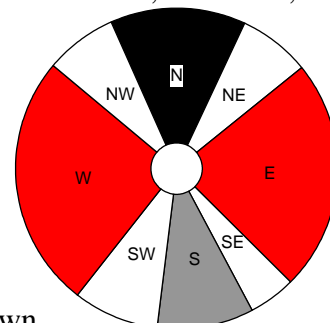
Altitude (631 records): 200 - 1680 m; 520 *lq* - 660 *med* - 740 *uq*m.



Landform (630 records): 78% deep soil, 20% shallow soil, 2% rocky outcrops, 0.2% riverine.

Slope (627 records): 62% gentle incline, 23% steep incline, 7% hill top, 6% platform, 0.8% valley bottom, 0.2% cliff, 0.2% dunes.

Aspect (558 records): 34% West, 30% East, 21% North, 16% South.



Soil Type (628 records): 56% sandy, 21% loamy, 18% gravelly, 3% rocky, 2% clayey.

Soil Colour (627 records): 55% brown, 27% grey, 5% yellow, 5% orange, 4% white, 4% red, 0.3% black.

Geology (620 records): 82% sandstone, 17% shale, 1% silcrete or ferricrete, 0.2% Tertiary sands.

Vegetation (630 records): 99% shrubland, 0.8% plantations, 0.3% agricultural lands.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 1 806 km² with 13% conserved and 16% lost; **Occupancy:** 519 km² with 19% conserved and 9% lost. **Fragmentation index:** 18%.

Nature Reserves (631 records): 23% in Nature Reserves.

Habitat destruction (612 records): 88% extensive natural habitat, 6% islands, 3% naturally linear habitats, 2% naturally

fragmented habitats, 1% road verges, 0.2% corridors.

Alien Invasive Species (610 records): 71% none, 19% *Pinus*, 6% Fabaceae (chiefly alien *Acacia*), 4% Myrtaceae, 0.5% other aliens, 0.3% annual alien grasses.

Alien Density (608 records): 71% alien-free, 24% sparse, 4% abundant, 0.7% dense.

Cultivation & Utilization:

Picking (462 records): 100% no sign of picking.

Cultivation Status: Plantings - 1 record (0.2%).

Atlassers Notes:

One plant (a male) was growing in a sprawling/trailing form (LYM99060907);

Beautiful colour cones and red/purple leaves (WMPY1111702);

Not at all colourful at this time of the year making the range and the slightly wider leaf base the features that distinguish it (NAH94012302);

New plants with much new growth others with flowers (AWA97090601);

1/3 dead (AGRY0030103); Many dead plants (AGRY0111122); Lot dead - almost half of plants (AGRY0111123);

70% or 80% were male (SMRY0030103);

Monkey Beetle and beetle with green stripes (ridges) (AGRY0082411); Spider (MWB94082002); Ant (MWB94082003);

Confusing Species: The major problem (77% of misidentifications) was identifying the subspecies of *L. glaberrimum* when not in flower (*erubescens* has broader leaf bases and is more erect). The grey form of *L. pubescens* (bigger and more branched) and also smaller plants of *L. loranthifolium* (more glaucous leaves) proved problematic outside of the flowering season when there were no flowerheads or cones on the plants. A misidentification with *L. gydoense* was encountered.

Records of identification queries = 93.

Records of corrected identification queries = 74.

Variation and Taxonomy: Williams records some variation, but atlassers only noted a few sports:

- Pubescent leaf forms occur at Visgat.

Distribution: Add.

INCLUDEPICTURE

"C:\\temp\\atlas\\LDGLABE_m.jpg" *

MERGEFORMAT \d

Leucadendron loranthifolium (Salisb. ex Kn.) William 1809, 1967
Green-flower Sunbush
Perdepitjie

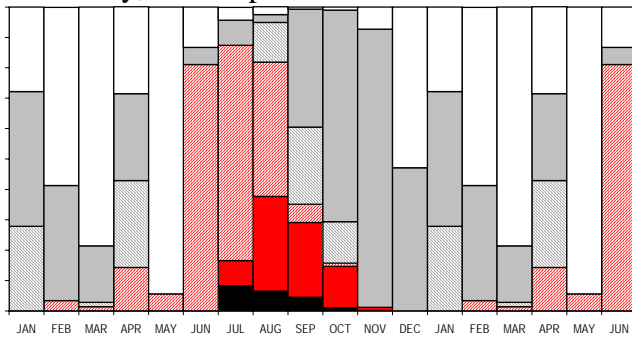
Other Common Names: Green-flower Conebush, Loranthus-leaf Protea.
Other Scientific Names: *pearsonii* Phill. 1913, *pseudospathulatum* Phill. & Hutch. 1912.

787 Records

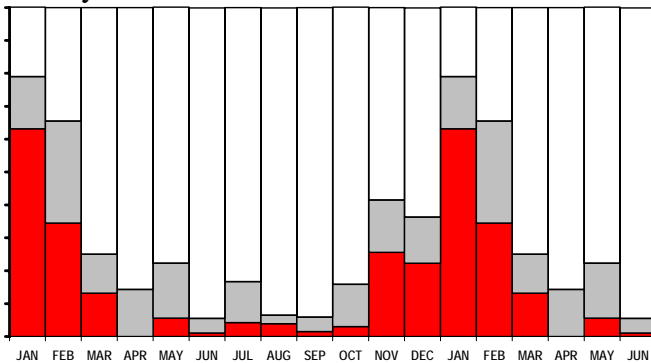
Population (783 records): 0.3% Abundant, 30% Common, 54% Frequent, 15% Rare, 0.3% Extinct.

Dispersion (730 records): 73% variable, 23% clumped, 3% widespread, 1.0% evenly distributed.

Flowering (772 records with: Jan 18, Feb 29, Mar 70, Apr 7, May 18, Jun 90, Jul 24, Aug 77, Sep 134, Oct 102, Nov 82, Dec 121): Buds from Jun to Aug; Flowering from Aug to Sep; Peak Flowering not significant; Over from Jan, Apr and Sep; Fruit from Sep to Feb and Apr; Nothing from Dec to May. Peak levels at 95% in Aug. Historically recorded as flowering from Jul to Sep, depending on locality, fruits ripen in Nov and are shed.



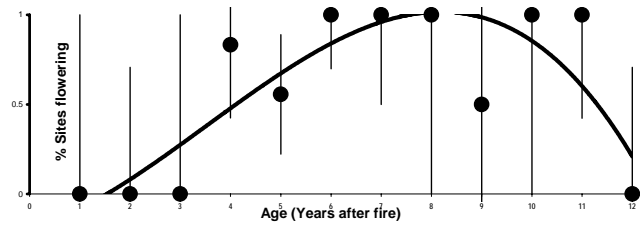
Growth (770 records with: Jan 19, Feb 29, Mar 68, Apr 7, May 18, Jun 90, Jul 24, Aug 76, Sep 135, Oct 101, Nov 82, Dec 121): Much from Nov to Feb; Rare from Feb; None from all year round. Peak levels at 79% in Jan.



Seedlings (304 records): Absent in 99%: more seedlings than prefire adults in 1 case. Seedlings found in Oct.

Fire Survival (24 records): 75% survived by seedlings only, 13% eliminated from the area by fires, 13% escaped fires in fire-safe areas.

Age to first flowering: First flowers recorded at 1 years, 50% estimated at 3-4 years, and 100% recorded at 6 years.



Height (778 records): 0.5% 0-0.2 m tall, 39% 0.2-1 m tall, 57% 1-2 m tall, 4% 2-5 m tall.

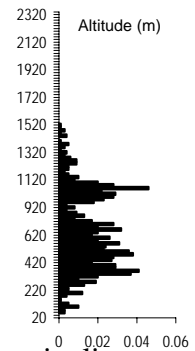
Pollinators (23 records): 52% beetles, 26% bees or wasps, 22% flies.

Detailed Pollinators (6 records): Monkey Beetle (3), Honey Bee (3).

Habitat:

Distance to Ocean (781 records): 100% inland - further than 2 km from coast.

Altitude (781 records): 40 - 1420 m; 400 *lq* - 580 *med* - 860 *uq*m.

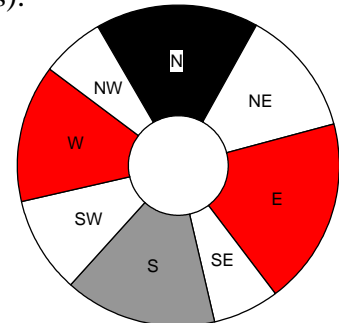


Landform (774 records): 85% deep soil, 12% shallow soil, 3% rocky outcrops, 0.1% riverine.

Slope (774 records): 65% gentle incline, 16% platform, 10% steep incline, 8% hill top, 2% valley bottom, 0.1% cliff.

Aspect (630 records):

30% East,
24% North,
23% West,
23% South.



Soil Type (772 records): 76% sandy, 11% loamy, 9% gravelly, 3% rocky, 0.5% clayey.

Soil Colour (770 records): 43% brown, 16% grey, 13% yellow, 10% red, 9% orange, 9% white.

Geology (755 records): 84% sandstone, 6% silcrete or ferricrete, 5% shale, 5% Tertiary sands, 0.3% conglomerate.

Vegetation (774 records): 98% shrubland, 1% agricultural lands, 0.1% thicket.

Conservation Status and Threat:

Red Data List Status: Near Threatened A4c, B1b(iii,v) + 2b(iii,v), in Hex River Valley: Critically Endangered A3c.

Occurrence (Fynbos): 9 549 km² with 12% conserved and 23% lost; Occupancy: 893 km² with 9% conserved and 21% lost. Fragmentation index: 7%.

Nature Reserves (781 records): 12% in Nature Reserves - inadequately conserved.

Habitat destruction (767 records):

72% extensive natural habitat, 23% islands, 2% naturally fragmented habitats, 2% road verges, 0.9% naturally linear habitats.

Alien Invasive Species (733 records):

73% none, 17% Fabaceae (chiefly alien *Acacia*), 8% *Pinus*, 2% Myrtaceae,

0.3% annual alien grasses, 0.1% other aliens.

Alien Density (731 records): 73% alien-free, 23% sparse, 3% abundant.**Cultivation & Utilization:**

Picking (580 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:*Identification problems:*

Young resemble young *L. pubescens* (AGR93071714);

No flowers - leaves are intermediate between given measurements of two species (AGRY3112701);

Variation:

Very narrow leaf form - difficulty with *L. glaberrimum* but very glaucous: in cone so no flowers (AGRY0110201);

Small leaf but glaucous - did not have the gizz of *L. glaberrimum* (AWA97090301);

Wide-leafed variety unlike those seen further south (WIJ98081508 + 9);

Recruitment:

Interfire recruitment! (AGR96111601 + 2); Young plants present in old veld (AGR96111612); Curiously about 90% the plants in young veld (about 4-5 years old), none on older veld (>10 yrs old)! - is this a recruitment phenomenon? Does not appear to be dieback as no sign of dead plants! (AGRY5122903 + 4);

More common in old fields (AGR98062712); Extends into old lands (NSC95083104); Soil disturbance (ploughing) appears to stimulate recruitment (PMR98120611);

Appeared to be resprouting (WIJ95101504);

Mortality:

High mortality in patches (AGR92082301);

Pollination:

Male flowerheads covered with black ants (WIJ95101504);

Confusing Species: When not in flower easy to confuse with *L. glaberrimum* subsp. *erubescens* (but distributions do not overlap much, and leaves narrower and not glaucous), but more problems (61%) were encountered with the type subspecies, which is generally a much smaller bush in all features: however, most of the problems were in young veld, although the form without larger, crowded involucre leaves posed a major problem outside of flowering season. Without careful observation it is sometimes possible to overlook *L. loranthifolium* in *L. pubescens* stands, although confusion between the two species is unlikely. An odd case of confusion with *L. sheilae*, which is much smaller in all its features and out of range.

Records of identification queries = 91.

Records of corrected identification queries = 71.

Variation and Taxonomy: This is a variable species, but atlassers did not detect any obvious regional differences worthy of noting. Williams expressed dissatisfaction "at being unable to make a satisfactory subdivision of this plastic species when one so frequently encounters populations that appear to be distinct." The major variants he mentions are:

- Narrower leaf forms occur in the centre of its range.
- Large, broad, elliptic leaf forms (of the *pearsonii* type) are found in the north and west.
- Leaves narrowed to the base (of the *pseudospathulatum* type) occur in the north-east and south.
- A form with young branches and young leaves with a dense velvety pubescence occurs at Koudeberg to Ezelbank (Wupperthal).
- Larger, crowded involucre leaves are absent from populations from Lambertshoek, Witelskloof, Nieuwoud Pass and Algeria areas.

Distribution: Add.

INCLUDEPICTURE

"C:\\temp\\atlas\\LDLORA_m.jpg" *

MERGEFORMAT \d

Leucadendron meyerianum Buek. Ex Phill. & Hutch. 1912
Van Rhynsdorp Conebush

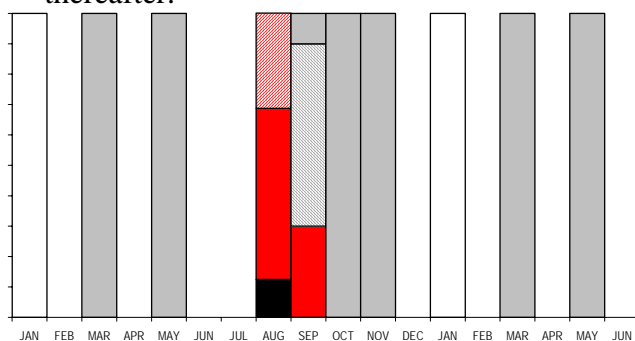
Other Common Names: None known.
Other Scientific Names: *None*.

48 Records

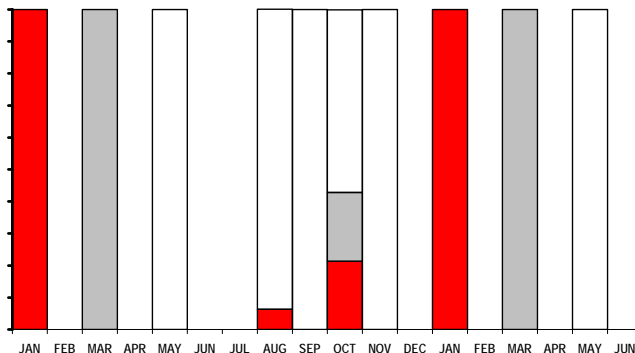
Population (47 records): 30% Common, 53% Frequent, 17% Rare.

Dispersion (42 records): 76% variable, 24% clumped.

Flowering (47 records with: Jan 1, Feb 0, Mar 1, Apr 0, May 3, Jun 0, Jul 0, Aug 16, Sep 10, Oct 14, Nov 2, Dec 0): Buds from Aug; Flowering from Aug to Sep; Peak Flowering not significant; Over from Sep; Fruit from Mar to May and Oct to Nov; Nothing from Jan. Peak levels unreliable at 100% in Aug. Historically recorded as flowering in Aug (Jun in cultivation), fruit in Dec, shed thereafter.



Growth (47 records with: Jan 1, Feb 0, Mar 1, Apr 0, May 3, Jun 0, Jul 0, Aug 16, Sep 10, Oct 14, Nov 2, Dec 0): Much from Oct and Jan; Rare from Mar and Oct; None from May to Nov. Peak levels unreliable at 100% in Jan.



Seedlings (15 records): All without any seedlings present.

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

Age to first flowering: y7 100% (1), y8 100% (2), y11 100% (1), y21 100% (4). First flowers recorded at 100% at 7 years, no data from younger veld.



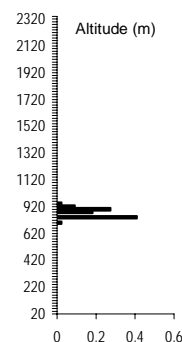
Height (47 records): 62% 0.2-1 m tall, 38% 1-2 m tall.

Pollinators (6 records): 100% beetles.
Detailed Pollinators (1 record): Monkey Beetle.

Habitat:

Distance to Ocean (44 records): 100% inland - further than 2 km from coast.

Altitude (44 records): 680 - 840 m; 720_{lq} - 740_{med} - 740_{uq} m.

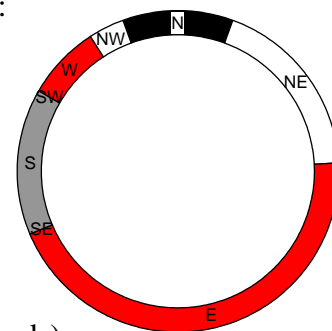


Landform (43 records): 67% deep soil, 26% shallow soil, 7% swamp.

Slope (44 records): 48% gentle incline, 32% platform, 20% hill top.

Aspect (27 records):

54% East,
 22% North,
 15% South,
 9% West.



Soil Type (44 records): 80% sandy, 16% loamy, 2% clayey, 2% gravelly.

Soil Colour (44 records): 36% brown, 20% grey, 20% yellow, 16% orange, 7% white.

Geology (43 records): 100% sandstone.

Vegetation (44 records): 98% shrubland, 2% wooded grassland.

Conservation Status and Threat:

Red Data List Status: Endangered A3c, B1b(i,ii,iii,iv,v)c(iv) + 2b(i,ii,iii,iv,v)c(iv).

Occurrence (Fynbos): 112 km² with 0% conserved and 24% lost; Occupancy: 50 km² with 0% conserved and 16% lost. Fragmentation index: 39%.

Nature Reserves (44 records): 2% in Nature Reserves - unconserved.

Habitat destruction (44 records): 77% extensive natural habitat, 20% islands, 2% naturally linear habitats.

Alien Invasive Species (42 records): 81% none, 14% Fabaceae (chiefly alien *Acacia*), 2% *Pinus*, 2% other aliens.

Alien Density (42 records): 81% alien-free, 19% sparse.

Cultivation & Utilization:

Picking (33 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Leaves: 28 mm long, 1.5 mm wide in males and 31 mm long, 2 mm wide in females, stems red, leaves grey (metallic) (AGR92082502); Leaves: male 2; 2; 1.5; 2.1; 1.25; 1.5; 1.25 mm wide, 30; 32; 26; 25; 35; 26; 29; 26; 25 mm long, female 1.5; 2; 1.5; 2; 1.5 wide, 32; 45; 26; 44; 23 mm long, stem and leaves both straw-green-yellow (AGR92082606); Leaves: male 1; 1.5; 2.2 mm wide, 22; 36; 37; 38 mm long, female 2; 2; 2; 1.75 mm wide, 37; 48; 39; 40 mm long, stems and leaves straw green in colour (AGR92082701);

One big male (AGRY0102605);

About 20% senescent (NAH94032702);

Beetles 1: Green 2.5x9 mm body; 2: Blue hairy 5x10 mm body (WIJ93082902);

Rocky area is marginal habitat but is persisting even in old veld probably because shallow soils prevent overtopping by other species (NAHY5050102);

Confusing Species: Misidentified with *L. pubescens*, which does not occur within its range, and *L. sheilae* (with broad straw-green leaves, and smaller size).

Records of identification queries = 11.

Records of corrected identification queries = 5.

Variation and Taxonomy: This was regarded by Meisn (1856) as a form of *L. brunioides*, but this is unrelated: this was based on Buek's specimen, presumably annotated on the specimen with this name. There is also another unpublished name (by Schlech.): *arenicolum*.

No variation noted or known.

It has been proposed that this be sunk into *L. sheilae* (Horvarth 1993). This is rejected based on subsequent visits to the area which showed *L. meyerianum* to have leaves to 2 mm wide – needle-like with no lamina, and typically to be much bigger plants, with greyer leaves.

Distribution: Add.

INCLUDEPICTURE

"C:\\temp\\atlas\\LDMEYE_m.jpg" *

MERGEFORMAT \d

Leucadendron roodii Phill. 1913 Gifberg Conebush

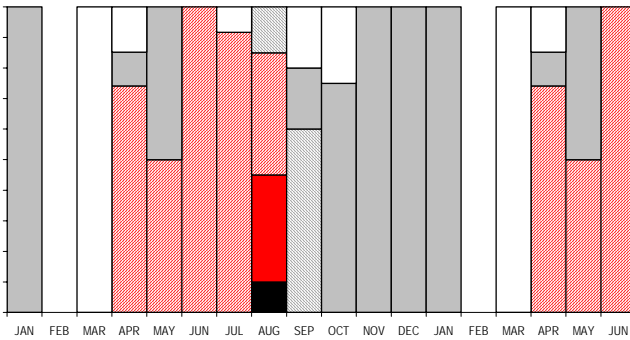
Other Common Names: None known.
Other Scientific Names: *acuminatum* Buek 1844, *concinnum* var. *latifolium* Meisn. 1856.

118 Records

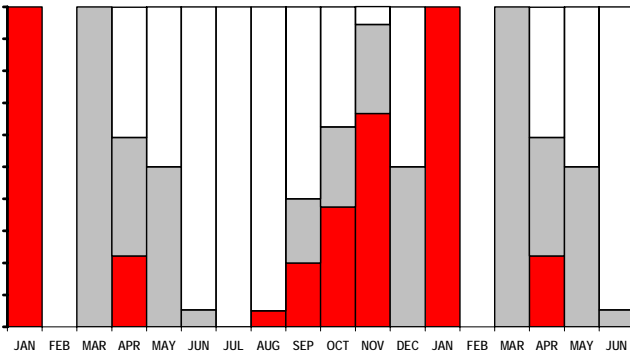
Population (118 records): 28% Common, 47% Frequent, 25% Rare.

Dispersion (104 records): 60% variable, 40% clumped.

Flowering (117 records with: Jan 3, Feb 0, Mar 1, Apr 27, May 2, Jun 19, Jul 12, Aug 20, Sep 5, Oct 8, Nov 18, Dec 2): Buds from Apr to 40; Flowering from Aug; Peak Flowering not significant in Aug; Over from Sep; Fruit from Sep to Jan; Nothing from Mar and Sep to Oct. Peak levels unreliable at 100% in Aug. Historically recorded as flowering from late Aug to early Sep, fruit ripen 3 months later and are shed.



Growth (117 records with: Jan 3, Feb 0, Mar 1, Apr 27, May 2, Jun 19, Jul 12, Aug 20, Sep 5, Oct 8, Nov 18, Dec 2): Much from Jan, Apr and Sep to Nov; Rare from Mar to May and Sep to Dec; None from Apr to Oct and Dec. Peak levels unreliable at 100% in Jan.



Seedlings (44 records): Absent in 91%; more seedlings than prefire adults in 2 cases. Seedlings found in Jul and Sep.

Fire Survival (7 records): 86% survived by seedlings only, 14% escaped fires in fire-safe areas.

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



Height (117 records): 2% 0-0.2 m tall, 49% 0.2-1 m tall, 50% 1-2 m tall.

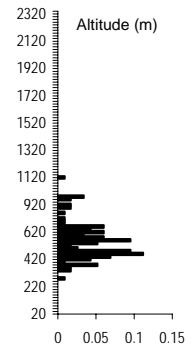
Pollinators (11 records): 82% beetles, 18% bees or wasps.

Detailed Pollinators (3 records): Monkey Beetle, Honey Bee, Green Monkey Beetle.

Habitat:

Distance to Ocean (116 records): 100% inland - further than 2 km from coast.

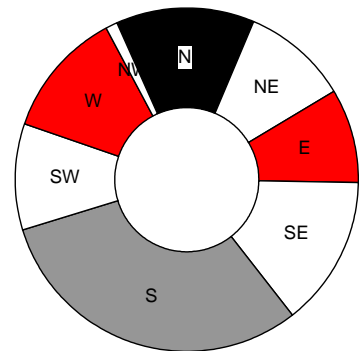
Altitude (116 records): 260 - 1020 m; 440 *lq* - 480 *med* - 560 *uq*m.



Landform (115 records): 94% deep soil, 6% shallow soil.

Slope (116 records): 67% gentle incline, 22% hill top, 11% platform.

Aspect (91 records): 43% South, 20% East, 19% North, 18% West.



Soil Type (116 records): 92% sandy, 6% loamy,

0.9% gravelly, 0.9% rocky.

Soil Colour (115 records): 37% brown, 20% yellow, 18% red, 11% grey, 10% white, 4% orange.

Geology (116 records): 88% sandstone, 12% silcrete or ferricrete.

Vegetation (116 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Vulnerable
 B1a(ii)b(ii,iii,iv,v) + 2a(ii)b(ii,iii,iv,v).

Occurrence (Fynbos): 332 km² with 1% conserved and 17% lost; **Occupancy:** 120 km² with 3% conserved and 26% lost. **Fragmentation index:** %.

Nature Reserves (116 records): 5% in Nature Reserves - inadequately conserved.

Habitat destruction (116 records): 55% extensive natural habitat, 40% islands, 4% naturally fragmented habitats, 0.9% corridors.

Alien Invasive Species (112 records): 65% none, 33% Fabaceae (chiefly alien *Acacia*), 2% *Pinus*.

Alien Density (111 records): 66% alien-free, 30% sparse, 5% abundant.

Cultivation & Utilization:

Picking (86 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Witch's Broom Infestation: 1 record (0.8%).

Atlassers Notes:

About 1 000 plants! (AGR97040633); One female plant near borrowpit (SHR97010303);

7 out of original population of 9 now dead; root fungus? (NAH98041902); 7 out of 8 previously alive plants have died this summer at this locality leaving only one young plant alive (NAHY0072301);

Bees and small black beetles (AWA96082006); Ants walking on flowerheads (AWA98083001); Beetle: brown with black head, 8x5 mm body (WIJ93083006);

All plants on edge and inside lands (AGR95081210); Some plants growing on old ploughed land (fallow land) (LYM97061506); Only one patch seen, at roadside (WIJ93083006);

Confusing Species: Confused with *L. loranthifolium* when not in flower or fruit when the sacculate basal bracts are not apparent.

Records of identification queries = 22.

Records of corrected identification queries = 16.

Variation and Taxonomy: No variation known.

Distribution: Add.

INCLUDEPICTURE

"C:\\temp\\atlas\\LDROOD_m.jpg" *

MERGEFORMAT \d

Leucadendron sheilae Williams 1972
Lokenberg Conebush

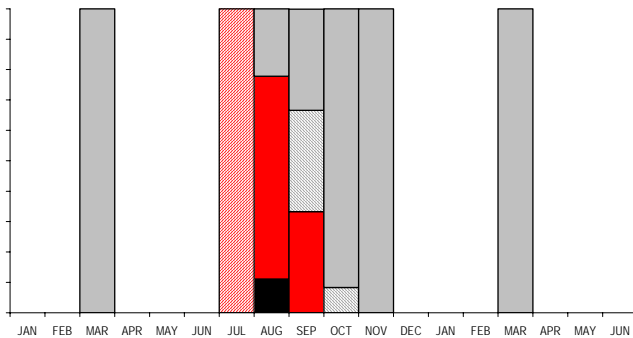
Other Common Names: None known.
Other Scientific Names: *None*.

90 Records

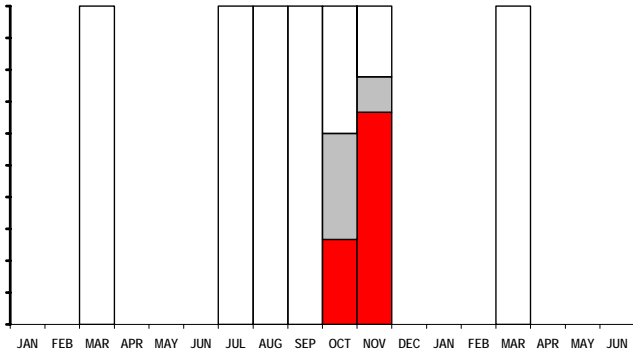
Population (90 records): 38% Common, 48% Frequent, 14% Rare.

Dispersion (81 records): 79% variable, 20% clumped, 1% evenly distributed.

Flowering (87 records with: Jan 0, Feb 0, Mar 1, Apr 0, May 0, Jun 0, Jul 1, Aug 9, Sep 6, Oct 60, Nov 10, Dec 0): Buds from Jul; Flowering from Aug to Sep; Peak Flowering insignificant; Over from Sep; Fruit from Aug to Mar; Nothing not recorded. Peak levels unreliable at 78% in Aug. Historically recorded as flowering in Aug, fruit in Dec, shed.



Growth (86 records with: Jan 0, Feb 0, Mar 1, Apr 0, May 0, Jun 0, Jul 1, Aug 9, Sep 6, Oct 60, Nov 9, Dec 0): Much from Oct to Nov; Rare from Oct; None from all year round. Peak levels unreliable at 78% in Nov.



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

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

Age to first flowering: First flowers recorded at 2 years. Insufficient data to determine age to 50% and 100% flowering.



Height (89 records): 58% 0.2-1 m tall, 40% 1-2 m tall, 1% 2-5 m tall.

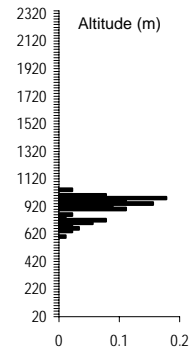
Pollinators: No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (90 records): 100% inland - further than 2 km from coast.

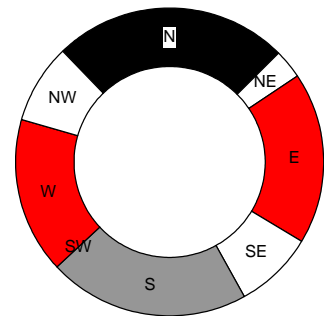
Altitude (90 records): 580 - 940 m; 740 *lq* - 840 *med* - 840 *uq*m.



Landform (90 records): 80% deep soil, 19% shallow soil, 1% rocky outcrops.

Slope (90 records): 57% gentle incline, 20% hill top, 19% platform, 3% valley bottom, 1% steep incline.

Aspect (61 records): 30% North, 25% South, 24% East, 20% West.



Soil Type (90 records): 74% sandy, 21% loamy, 3% gravelly, 1% clayey.

Soil Colour (88 records): 31% yellow, 26% brown, 20% grey, 15% red, 6% orange, 2% white.

Geology (88 records): 77% sandstone, 22% silcrete or ferricrete, 1% shale.

Vegetation (90 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Vulnerable A3c.

Occurrence (Fynbos): 232 km² with 14% conserved and 1% lost; Occupancy: 117 km² with 20% conserved and 1% lost. Fragmentation index: 37%.

Nature Reserves (90 records): 10% in Nature Reserves - inadequately conserved.

Habitat destruction (89 records): 51% extensive natural habitat, 49% islands.

Alien Invasive Species (87 records): 98% none, 2% *Pinus*.

Alien Density (87 records): 98% alien-free, 2% sparse.

Cultivation & Utilization:

Picking (55 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Leaves: female 3; 3 mm, males 3; 2.5; 2.0 mm broad and females 35; 34, males 26; 29; 31 mm long. Leaves and stem straw coloured (AGR92082405); Leaves: female 4.5 mm broad, 31 mm long; male 4; 4; 4; 4; 3.5 mm broad, 31; 41; 31; 41; 25 mm long. Leaves and stems pale straw green (AGR92082408); Leaves: males 32; 32; 35; 40; 41; 38 mm long, 5; 4; 4; 5; 6; 4 mm wide, females 37; 33 mm long, 4.5; 4 mm wide (AGR92082801); Leaves: males 41 mm long, 4 mm wide, females 43 mm long, 5.5 mm wide (AGR92082803);

Tony claims it is *L. sheilae* but you might as well call a bird a fish the leaves are by far too narrow (AMMY0103004);

Confusing Species: Misidentified with *L. meyerianum* (which has much narrower leaves). Also with *L. remotum* and

brunoioides, which have quite different seeds and appearances.

Records of identification queries = 19.

Records of corrected identification queries = 14.

Variation and Taxonomy: No variation noted, but leaves northern populations have leaves narrower (2-3.5 mm broad in males, and 3-4.5 mm in females) than described, but not approaching the needle-like leaves of *L. meyerianum* which are typically 1 mm wide, not exceeding 2 mm.,

It has been proposed that this be sunk into *L. meyerianum* (Horvarth 1993), but this is rejected based on subsequent visits to the area.

Distribution: Add.

INCLUDEPICTURE

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MERGEFORMAT \d

Leucadendron cadens Williams 1972 Witteberg Sunbush

Other Common Names: Witteberg Sprawling Conebush.

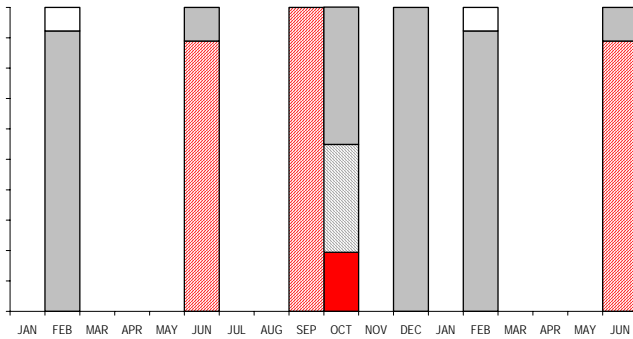
Other Scientific Names: *None.*

92 Records

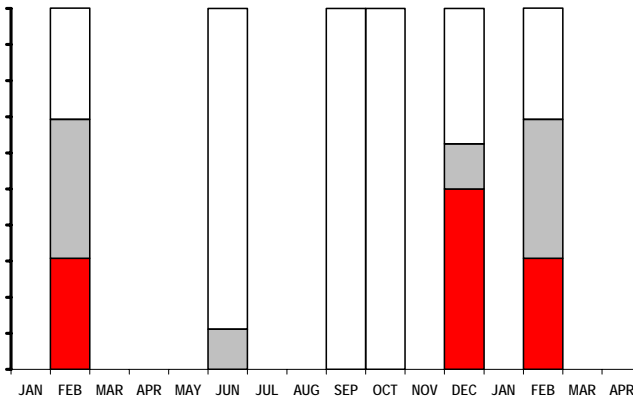
Population (90 records): 41% Common, 44% Frequent, 13% Rare, 1% Extinct.

Dispersion (80 records): 80% variable, 19% clumped, 1% evenly distributed.

Flowering (89 records with: Jan 0, Feb 39, Mar 0, Apr 0, May 0, Jun 9, Jul 0, Aug 0, Sep 2, Oct 31, Nov 0, Dec 8): Buds from Jun to Sep; Flowering in Oct; Peak Flowering not recorded; Over from Oct; Fruit from Oct to Feb; Nothing not significant. Peak levels unreliable at 55% in Oct. Historically recorded as flowering in Oct, fruit in Jan and shed.



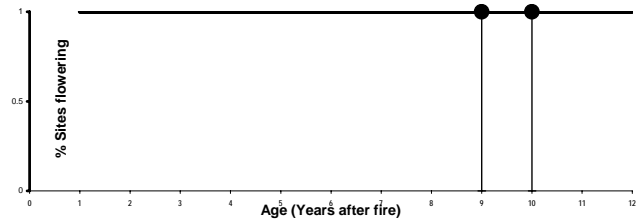
Growth (89 records with: Jan 0, Feb 39, Mar 0, Apr 0, May 0, Jun 9, Jul 0, Aug 0, Sep 2, Oct 31, Nov 0, Dec 8): Much from Dec to Feb; Rare from Feb; None from all year round. Peak levels unreliable at 69% in Feb.



Seedlings (26 records): Absent in 92%: fewer seedlings than prefire adults in 1 case. Seedlings found in Jun.

Fire Survival (4 records): 100% survived by seedlings only.

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



Height (90 records): 36% 0-0.2 m tall, 64% 0.2-1 m tall.

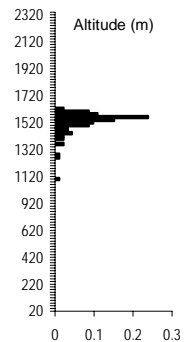
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (92 records): 100% inland - further than 2 km from coast.

Altitude (92 records): 980 - 1520 m; 1380_{lq} - 1440_{med} - 1440_{uq}m.



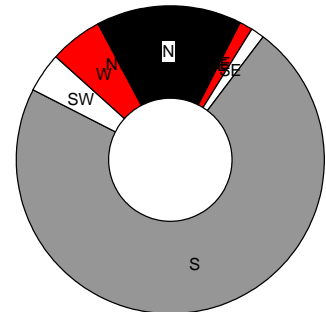
Landform (90 records): 58% deep soil, 40% shallow soil, 2% rocky outcrops.

Slope (91 records): 42% gentle incline, 26% steep incline, 26% hill top, 4% platform, 1% valley bottom.

Aspect (72 records): 75% South, 15% North, 8% West, 2% East.

Soil Type (88 records): 48% loamy, 20% gravelly, 19% rocky, 13% sandy.

Soil Colour (91 records): 49% grey, 37% brown, 5% yellow, 4% orange, 3% red.



Geology (57 records): 81% sandstone, 19% shale.

Vegetation (91 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Least Concern. Occurrence (Fynbos): 132 km² with 16% conserved and 1% lost; Occupancy: 92 km² with 10% conserved and 0% lost. Fragmentation index: 55%.

Nature Reserves (92 records): 8% in Nature Reserves - inadequately conserved.

Habitat destruction (91 records): 99% extensive natural habitat, 1% naturally linear habitats.

Alien Invasive Species (90 records): 100% none.

Alien Density (90 records): 100% alien-free.

Cultivation & Utilization:

Picking (41 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Not prostrate but low bush peculiar - follow up
- could be some leaked genes from *L. barkerae*? (AGR96121310); Some 2 plants erect, some semi-erect, but most sprawling (AGRY1020719);

Appears to dominate in young veld and quickly dies out - not much in older patches but lots of dead skeletons (AGRY1020714); Only skeletons seen (from this fire cycle - veld too old?) - must have been frequent earlier in the seral cycle (AGRY1020721); Most of plants deceased (AMMY1020714);

Confusing Species: None noted.
Records of identification queries = 2.

Variation and Taxonomy: Although Williams notes that there is no variation in this species, this is only true on Witteberg itself. Plants from ranges to the south include erect and semi-erect habits, up to 1.5 m tall.

Distribution: Add.

INCLUDEPICTURE

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MERGEFORMAT \d

Leucadendron daphnoides (Thunb.) Meisn. 1806, 1856

DuToitskloof Conebush

Reusepoeierkwas

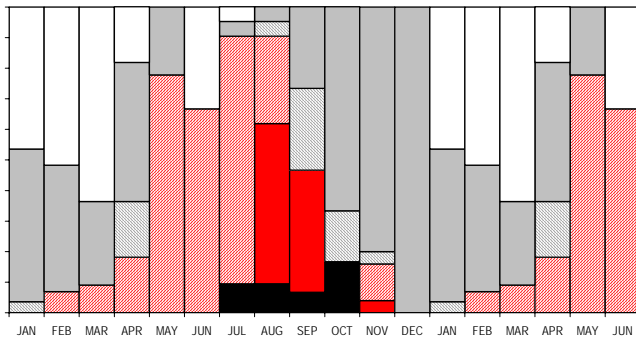
Other Common Names: Giant Pompom.
Other Scientific Names: *concolor* var. *insigne* Meisn. 1856, *concolor* var. *lanceolatum* Meisn. 1856, *grandiflorum* Drege 1844, *retusum* Drege 1844, *rugosum* (Thunb.) 1803, *venosum* R.Br. 1810.

188 Records

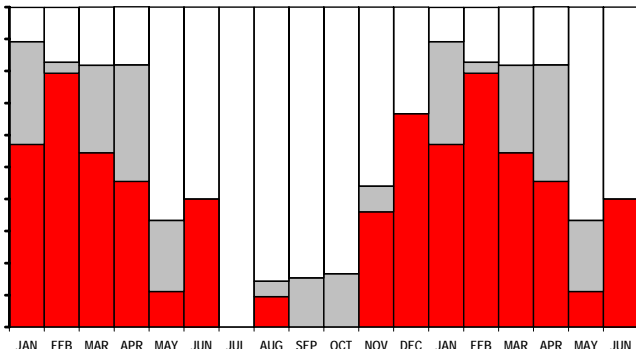
Population (180 records): 0.6% Abundant, 22% Common, 53% Frequent, 25% Rare.

Dispersion (158 records): 68% variable, 26% clumped, 6% widespread.

Flowering (185 records with: Jan 28, Feb 29, Mar 11, Apr 11, May 9, Jun 6, Jul 21, Aug 21, Sep 15, Oct 6, Nov 25, Dec 3): Buds from May to Aug; Flowering from Aug to Sep; Peak Flowering not significant; Over from Sep; Fruit from Sep to May; Nothing from Jan to Mar. Peak levels at 95% in Aug. Historically recorded as flowering from Jul to late Sep depending on locality, fruit ripen after 3 months and are shed.



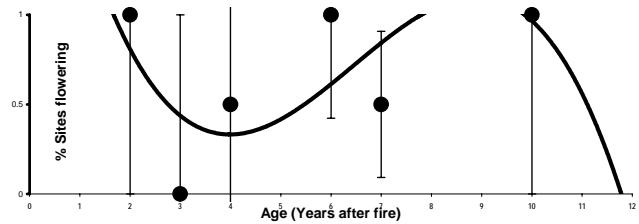
Growth (182 records with: Jan 28, Feb 29, Mar 11, Apr 11, May 9, Jun 5, Jul 21, Aug 21, Sep 13, Oct 6, Nov 25, Dec 3): Much from Nov to Apr and Jun; Rare from Jan and Mar to May; None from May to Dec 33. Peak levels at 89% in Jan.



Seedlings (69 records): Absent in 88%: fewer seedlings than prefire adults in 4 cases. Seedlings found in Oct and Nov (3).

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

Age to first flowering: First flowers recorded at 2 years, 50% estimated at 2-3 years, and 100% recorded at 10 years.



Height (186 records): 46% 0.2-1 m tall, 53% 1-2 m tall, 1% 2-5 m tall.

Pollinators (5 records): 40% bees or wasps, 40% beetles, 20% flies.

Detailed Pollinators (2 records): Snout Weevil, Honey Bee.

Habitat:

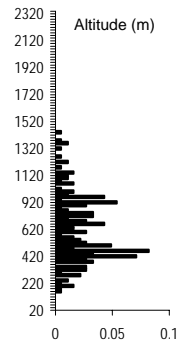
Distance to Ocean (176 records): 100% inland - further than 2 km from coast.

Altitude (176 records): 140 - 1340 m; 420 *lq* - 540 *med* - 740 *uq*m.

Landform (176 records): 90% deep soil, 9% shallow soil, 0.6% rocky outcrops.

Slope (176 records): 49% gentle incline, 47% steep incline, 2% hill top, 2% platform.

Aspect (168 records): 39% West, 27% South, 24% North, 9% East.

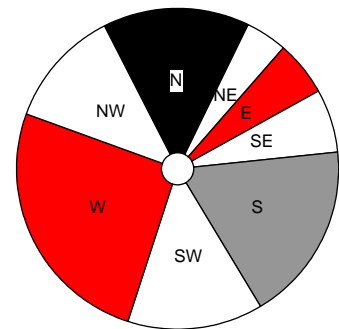


Soil Type (175 records): 59% loamy, 19% sandy, 13% gravelly, 7% clayey, 2% rocky.

Soil Colour (175 records): 66% brown, 16% orange, 11% grey, 5% yellow, 1% red, 0.6% black.

Geology (168 records): 52% granite, 23% sandstone, 23% shale, 0.6% conglomerate, 0.6% silcrete or ferricrete.

Vegetation (175 records): 86% shrubland, 13% plantations, 0.6% thicket, 0.6% forest, 0.6% agricultural lands.



Conservation Status and Threat:

Red Data List Status: Endangered A2c. Occurrence (Fynbos): 1 117 km² with 48% conserved and 29% lost; Occupancy: 148 km² with 38% conserved and 26% lost. Fragmentation index: 11%.

Nature Reserves (176 records): 14% in Nature Reserves - inadequately conserved.

Habitat destruction (171 records): 89% extensive natural habitat, 4% road

verges, 4% naturally linear habitats,
3% islands, 0.6% naturally fragmented
habitats.

Alien Invasive Species (176 records):
55% *Pinus*, 20% Fabaceae (chiefly alien
Acacia), 16% *Hakea*, 5% none,
3% Myrtaceae, 0.6% other aliens.

Alien Density (175 records): 5% alien-free,
55% sparse, 31% abundant, 7% dense,
2% impenetrable.

Cultivation & Utilization:

Picking (146 records): 97% no sign of picking,
3% lightly picked.

Cultivation Status: Plantings - 4 records (2%),
Augmentations - 1 record (0.5%), Escapes -
4 records (2%).

Atlasers Notes:

Burnt and chopped down in May 1993 no
seedlings found (OGM93082001);

Bottelary Hills: No signs of plants having been
planted! No sign of it being anywhere else
nearby though - assumed escaped

(AGR99032201); Next to post office tower
road and probably planted as others have
been - about 30 plants (WIJ93062504);

Young pine plantation - population threatened
(AGR93090502); Etiolated - growing under
pines (LYM99012702); This extended
population is about to be smothered by a
newly planted pine plantation covering some
100 ha (NAH96090201);

1/2 dead (AGR96082105); Most of the
population was under stress - dying from

bottom to tip - Root Rot Fungus?
(IEB99041404);

Weevils - Lots - some hundred on flowerheads!
But don't fly? (AGR98082003);

Confusing Species: Most commonly confused
with *L. tinctum* (which does not have the
adpressed involucre bracts and erect
involucre bracts), but is superficially similar
when not in flower. A single instance of
confusion with *L. sessile* (which is smaller
and does not have the involucre leaves
adpressed). Odd errors with *L. dregei* (no
similarity!) and *verticillatum* as small
seedlings.

Records of identification queries = 16.

Records of corrected identification queries = 8.

Variation and Taxonomy: The name *L.*
insigne Buek in Drege (1844) is a *nomen*
nudum. *Protea rugosa* has priority but the
specimen is too poor, according to Williams,
to be certain of its identity.

There is little variation ('a fairly constant
species'), except:

- The male perianth may be hairless
(Kaaaimansgat) or pubescent
(Kleindrakenstein), but the significance and
extent of this variation is not noted.

Distribution: Add.

INCLUDEPICTURE

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MERGEFORMAT \d

Leucadendron gydoense Williams 1967

Gydo Conebush

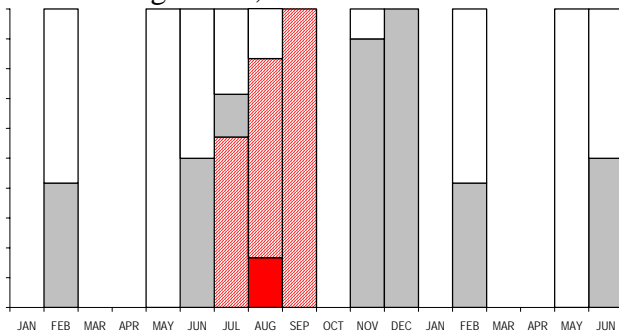
Other Common Names: None known.
Other Scientific Names: *None*.

45 Records

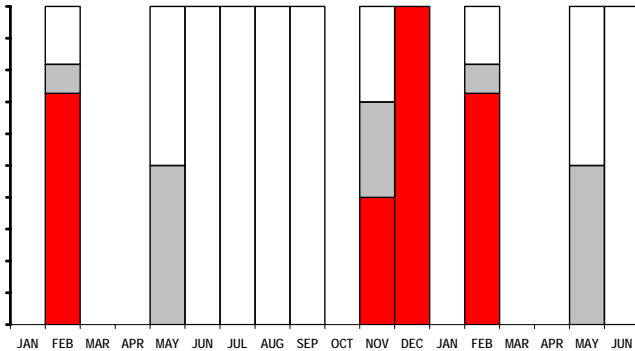
Population (44 records): 36% Common, 45% Frequent, 18% Rare.

Dispersion (41 records): 73% variable, 27% clumped.

Flowering (45 records with: Jan 0, Feb 12, Mar 0, Apr 0, May 2, Jun 2, Jul 7, Aug 6, Sep 5, Oct 0, Nov 10, Dec 1): Buds from Jul to Sep; Flowering from Aug; Peak Flowering and Over not recorded; Fruit from Nov to Feb and Jun; Nothing from Feb to Jul. Peak levels unreliable. Historically recorded as flowering in Oct, fruit in Feb and shed.



Growth (44 records with: Jan 0, Feb 11, Mar 0, Apr 0, May 2, Jun 2, Jul 7, Aug 6, Sep 5, Oct 0, Nov 10, Dec 1): Much from Nov to Feb; Rare from May and Nov; None from May to Oct. Peak levels unreliable at 100% in Dec.



Seedlings (23 records): All without any seedlings present.

Fire Survival (5 records): 100% survived by seedlings only.

Age to first flowering: First flowers recorded at 100% at 9 years, no data from younger veld apart from 1 record of no flowers at 7 years.



Height (44 records): 5% 0-0.2 m tall, 64% 0.2-1 m tall, 32% 1-2 m tall.

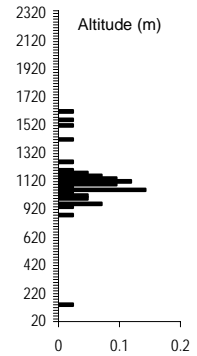
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (41 records): 100% inland - further than 2 km from coast.

Altitude (41 records): 760 - 1520 m; 940_{lq} - 960_{med} - 1000_{uq}m.



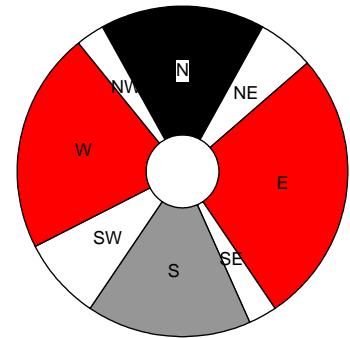
Landform (41 records):

83% deep soil,
17% shallow soil.

Slope (41 records):

49% gentle incline,
32% steep incline, 12% platform, 5% valley bottom, 2% hill top.

Aspect (36 records): 33% East, 29% West, 21% South, 17% North.



Soil Type (41 records):

44% sandy,
22% loamy,
15% rocky,
12% clayey,
7% gravelly.

Soil Colour (41 records):

46% grey,
39% brown,
7% orange, 5% white, 2% red.

Geology (40 records): 68% sandstone, 28% shale, 3% silcrete or ferricrete, 3% Tertiary sands.

Vegetation (41 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Endangered A2a.

Occurrence (Fynbos): 414 km² with 28% conserved and 20% lost; Occupancy: 55km² with 33% conserved and 8% lost. Fragmentation index: 10%.

Nature Reserves (41 records): 39% in Nature Reserves.

Habitat destruction (41 records):

88% extensive natural habitat, 12% islands.

Alien Invasive Species (40 records):

43% *Pinus*, 38% none, 15% Fabaceae (chiefly alien *Acacia*), 5% *Hakea*.

Alien Density (40 records): 38% alien-free, 60% sparse, 3% abundant.

Cultivation & Utilization:

Picking (32 records): 100% no sign of picking.
Cultivation Status: Plantings - 1 records (2%).

Atlassers Notes: None.

Confusing Species: Confused with *L. sessile* which has broader, hairy stems, broader

leaves, crowded involucre leaves and is often more branched and less erect.
Records of identification queries = 5.
Records of corrected identification queries = 3.

Variation and Taxonomy: Was considered *L. venosum* prior to being recognized as distinct. Strictly *venosum* is a synonym of *L. daphnoides*, but as the type was lost, it was

in error applied to *L. sessile* from 1912 to the 1970s.
No variation noted.

Distribution: Add.

INCLUDEPICTURE

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MERGEFORMAT \d

Leucadendron sessile R.Br. 1810

Western Sunbush

Kleinkoprossetolbos

Other Common Names: Baby-rosette Conebush, Mini-pompom Conebush, Sun Conebush, Venosum.

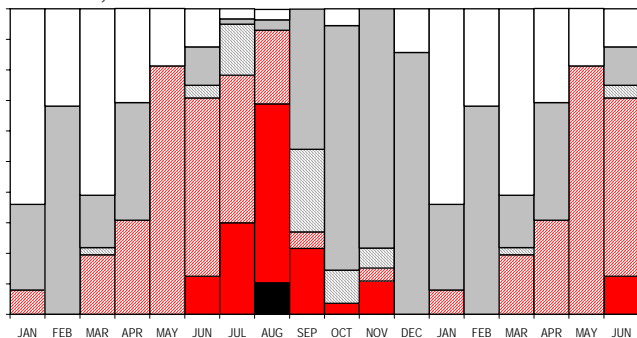
Other Scientific Names: *conchiforme* (Kuntze) 1898, *humifusum* Phill 1925.

386 Records

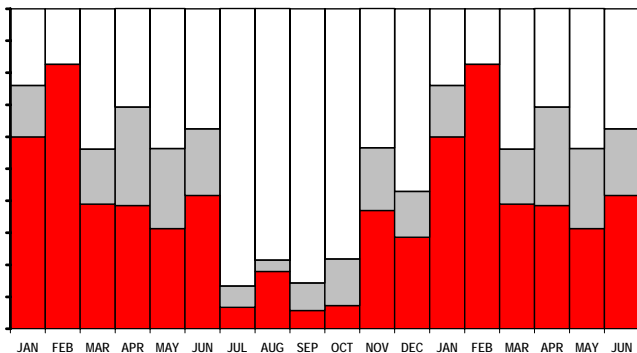
Population (379 records): 0.3% Abundant, 30% Common, 56% Frequent, 14% Rare, 0.3% Extinct.

Dispersion (353 records): 76% variable, 20% clumped, 3% widespread, 0.8% evenly distributed.

Flowering (375 records with: Jan 25, Feb 22, Mar 41, Apr 13, May 16, Jun 24, Jul 60, Aug 29, Sep 37, Oct 55, Nov 46, Dec 7): Buds from Mar to Aug; Flowering from Jul to Sep; Peak Flowering not significant; Over from Sep; Fruit from Sep to Feb and Apr; Nothing from Jan to Apr. Peak levels at 95% (93%) in Jul (Aug). Historically recorded as flowering from Jul to Aug, fruit 4 months later, shed.



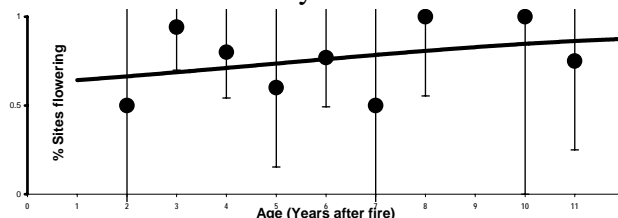
Growth (373 records with: Jan 25, Feb 23, Mar 41, Apr 13, May 16, Jun 24, Jul 60, Aug 28, Sep 35, Oct 55, Nov 46, Dec 7): Much from Nov to Jun; Rare from Apr to Jun and Nov; None from Mar to Jan. Peak levels at 83% in Feb.



Seedlings (132 records): Absent in 97%; fewer seedlings than prefire adults in 2 cases. Seedlings found in Oct (2).

Fire Survival (20 records): 95% survived by seedlings only, 5% resprouted from underground boles.

Age to first flowering: First flowers recorded at 2 years, 50% estimated at 2-3 years, and 100% recorded at 8 years.



Height (382 records): 2% 0-0.2 m tall, 76% 0.2-1 m tall, 21% 1-2 m tall, 0.8% 2-5 m tall.

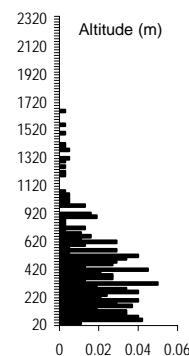
Pollinators (12 records): 58% beetles, 25% bees or wasps, 17% flies.

Detailed Pollinators (7 records): Monkey Beetle (3), Snout Weevil (2), Solitary Bee, Honey Bee.

Habitat:

Distance to Ocean (373 records): 76% inland - further than 2 km from coast.

Altitude (373 records): 20 - 1560 m; 180 *lq* - 320 *med* - 480 *uq*m.



Landform (367 records): 74% deep soil, 20% shallow soil, 5% rocky outcrops.

Slope (369 records): 48% steep incline, 48% gentle incline, 2% hill top, 1% platform.

Aspect (355 records): 36% West, 35% South, 15% East, 14% North.

Soil Type (364 records):

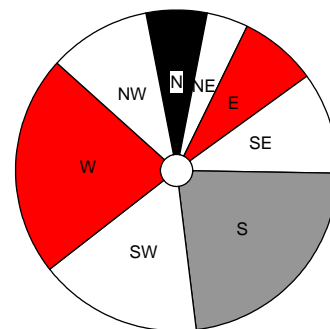
33% loamy, 30% sandy, 16% gravelly, 14% clayey, 7% rocky.

Soil Colour (365 records):

68% brown, 18% grey, 10% orange, 2% red, 2% yellow, 0.3% black, 0.3% white.

Geology (354 records): 56% sandstone, 28% shale, 15% granite, 2% conglomerate.

Vegetation (370 records): 96% shrubland, 3% plantations, 0.3% thicket, 0.3% forest, 0.3% agricultural lands.



Conservation Status and Threat:

Red Data List Status: Near Threatened B1b(i,ii)c(iv)2b(i,ii)c(iv).

Occurrence (Fynbos): 3 053 km² with 37% conserved and 28% lost; Occupancy:

265 km² with 20% conserved and 12% lost.
Fragmentation index: 7%.

Nature Reserves (373 records): 51% in Nature Reserves - well conserved.

Habitat destruction (359 records):
93% extensive natural habitat, 5% islands,
1% road verges, 0.3% corridors,
0.3% naturally fragmented habitats.

Alien Invasive Species (357 records):
32% none, 24% Fabaceae (chiefly alien
Acacia), 22% *Pinus*, 17% *Hakea*,
4% Myrtaceae.

Alien Density (357 records): 32% alien-free,
52% sparse, 12% abundant, 3% dense,
0.8% impenetrable.

Cultivation & Utilization:

Picking (244 records): 100% no sign of
picking, 0.4% lightly picked.

Cultivation Status: Plantings - 4 records (1%).

Atlassers Notes:

Lots dead! Probably drought - little rain so far
(AGR99072902); Lots dead
(AGRY0031203); Dying (CFR99072902 +
3); A number of plants were dead
(DJL99072904); Many dead and dying
(IEB99072902); Some drought die-back
(SMR99072904); Some patches of die-off
(SMR99072906);

Inflorescences Often Seemed Aborted
(SMR99072904);

Only on those in flower – Bees
(CFR99072902); Pollinator : long thin dark
fly (SMR99072911);

Doing OK in ploughed area! (ASP95051708);

Confusing Species: Often (62% of cases)
confused with *L. tinctum*, which has green,
strongly recurved involucre bracts,
especially the larger plants to the south and
in the vicinity of Sir Lowry's Pass. Also
understandably confused with *L. daphnoides*
(with adpressed involucre bracts and
leaves), *gydoense* (with hairless stems and
narrower leaves) and perhaps understandably
with *glaberrimum subsp. erubescens* (which
does not have brown, papery basal involucre
bracts). Confusion with *L. gandogeri* and
rubrum is less explicable, based on early
records of non-flowering plants.

Records of identification queries = 46.

Records of corrected identification queries = 26.

Variation and Taxonomy: From 1912 to 1972
this species was known as *L. venosum*, based
on imperfect knowledge of the lost type,
which is the same as *L. daphnoides*.

No variation noted.

Distribution: Add.

INCLUDEPICTURE

"C:\\temp\\atlas\\LDSESS_m.jpg" *

MERGEFORMAT \d