

*Serruria*  
**Spiderheads**

This is the only genus that has not been revised within the last half decade. No formal natural groupings exist, and herein we use the groups recognized by Rebelo 1994.

**OUTSTANDING ISSUES:**

**Q for John: Why is *S. decipiens* not *Protea patula* Thunb 1781**

**Get Bothalia 263-266**

**REVISIT AND REDO DATA FOR *Se collina***

**Find original *Se* for *inconspicua***

**Summarize variation in *Se phylloides***

*Serruria candicans* R.Br. 1810  
Shiny Spiderhead

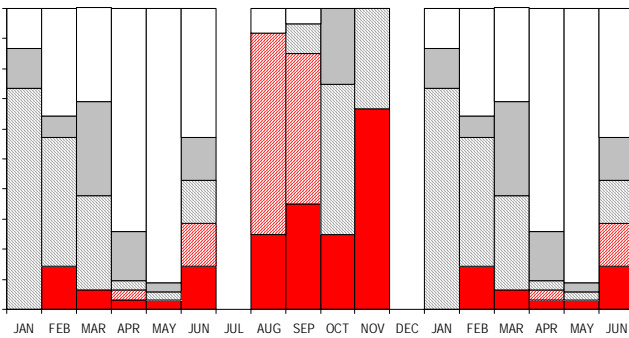
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**165 Records**

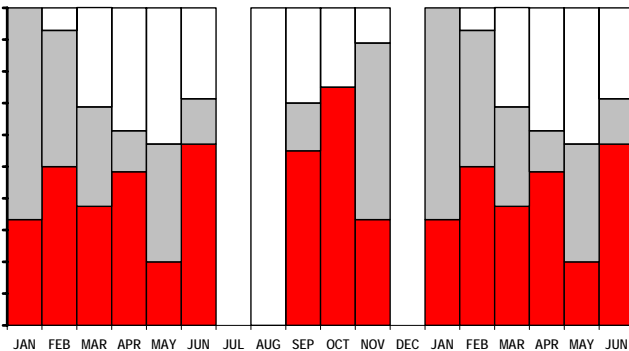
**Population** (165 records): 2% Abundant, 39% Common, 42% Frequent, 16% Rare.

**Dispersion** (157 records): 72% variable, 27% clumped, 1% widespread.

**Flowering** (163 records with: Jan 15, Feb 14, Mar 16, Apr 31, May 35, Jun 7, Jul 0, Aug 12, Sep 20, Oct 4, Nov 9, Dec 0): Buds from Aug to Sep; Flowering from Aug to Nov; Peak Flowering not recorded; Over from Oct to Mar; Fruit from Mar and Oct; Nothing from Feb to Jun. Peak levels at 100% in Nov. Historically recorded as flowering from Jul to Dec.



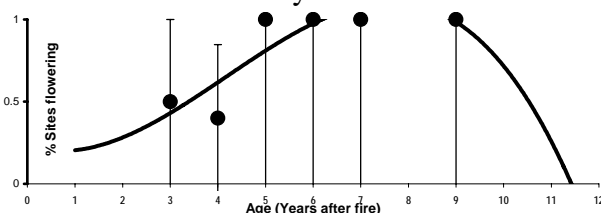
**Growth** (163 records with: Jan 15, Feb 14, Mar 16, Apr 31, May 35, Jun 7, Jul 0, Aug 12, Sep 20, Oct 4, Nov 9, Dec 0): Much from Sep to Jun; Rare from Nov to Mar and May; None from Mar to Oct. Peak levels at 100% in Jan.



**Seedlings** (56 records): All without any seedlings present.

**Fire Survival** (9 records): 100% survived by seedlings only.

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



**Height** (165 records): 3% 0-0.2 m tall, 96% 0.2-1 m tall, 1% 1-2 m tall.

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

**Detailed Pollinators** (2 records): Blues Butterfly.

**Habitat:**

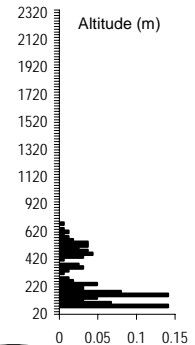
**Distance to Ocean** (163 records): 100% inland - further than 2 km from coast.

**Altitude** (163 records): 60 - 680 m; 120<sub>lq</sub> - 180<sub>med</sub> - 260<sub>uq</sub>m.

**Landform** (162 records): 91% deep soil, 9% shallow soil.

**Slope** (161 records): 51% gentle incline, 29% platform, 15% steep incline, 4% valley bottom, 1% hill top.

**Aspect** (138 records): 67% West, 14% South, 10% North, 8% East.

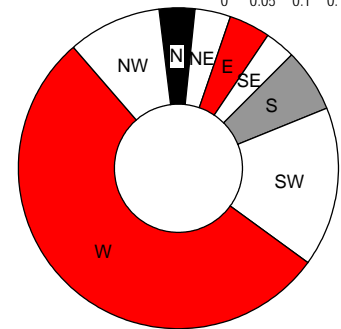


**Soil Type** (161 records): 39% sandy, 29% loamy, 18% gravelly, 11% clayey, 3% rocky.

**Soil Colour** (160 records): 69% brown, 14% grey, 12% orange, 4% white.

**Geology** (144 records): 44% shale, 31% granite, 17% sandstone, 8% conglomerate.

**Vegetation** (162 records): 100% shrubland.



**Conservation Status and Threat:**

**Red Data List Status:** Endangered

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

Occurrence (Fynbos): 190 km<sup>2</sup> with 26% conserved and 27% lost; Occupancy: 126 km<sup>2</sup> with 35% conserved and 18% lost. Fragmentation index: 20%.

**Nature Reserves** (163 records): 52% in nature reserves - well conserved.

**Habitat destruction** (161 records): 98% extensive natural habitat, 1% naturally linear habitats.

**Alien Invasive Species** (161 records): 59% none, 22% Fabaceae (chiefly alien *Acacia*), 8% *Hakea*, 8% *Pinus*, 2% Myrtaceae.

**Alien Density** (161 records): 59% alien-free, 34% sparse, 6% abundant.

**Cultivation & Utilization:**

**Picking** (127 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:**

+1 dead (AGRY6010501); +2 dead  
(AGRY6010502);  
Densest on termitaria (AGR96042715); Prolific  
in white sandy track (CHE98051406);

**Confusing Species:** Similar to *S.fasciflora* but  
far more silver.  
Records of identification queries = 2.  
Records of corrected identification queries = 1.

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

**Distribution:** Add.

INCLUDEPICTURE

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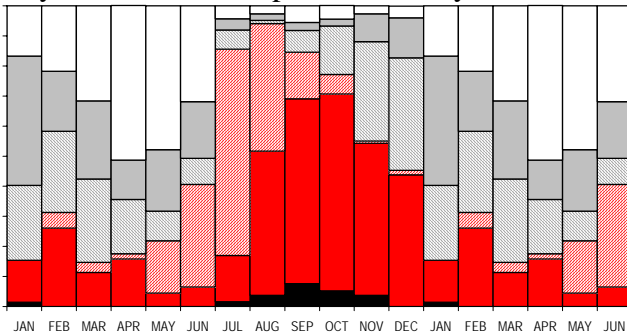
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*Serruria fasciflora* Salisb. ex Kn. 1809  
**Common Pin Spiderhead**  
*Speldespinnekopbos*

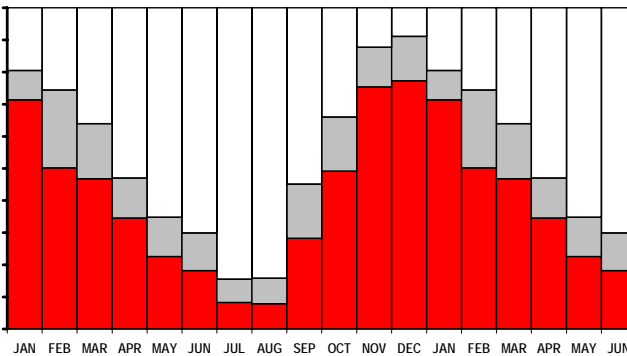
**Other Common Names:** Fasciated *Serruria*, *Fynspinnepkopbos*, *Spinnepkopbos*.  
**Other Scientific Names:** *biglandulosa* Schltr 1899, *burmannii* R. Br. 1810, *candicans* Drege ex Meisn 1856, *compa* Meisn 1856, *foeniculacea* Sieber ex Meisn 1856, *knightii* Hutch 1912, *pauciflora* Phill & Hutch 1912, *serraria* (L.) 1753, *serraria* (Thunb.) 1781, *subsericea* Hutch 1912.

**3038 Records**

**Population** (3009 records): 1% Abundant, 34% Common, 51% Frequent, 13% Rare.  
**Dispersion** (2696 records): 70% variable, 25% clumped, 3% widespread, 1% evenly distributed.  
**Flowering** (2902 records with: Jan 221, Feb 211, Mar 354, Apr 222, May 224, Jun 138, Jul 188, Aug 271, Sep 291, Oct 310, Nov 269, Dec 203): Buds from Jun to Aug; Flowering from Feb and Aug to Dec; Peak Flowering not significant; Over from Nov to Mar; Fruit from Jan to Mar; Nothing from Feb to Jun. Peak levels at 95% in Aug. Historically recorded as flowering from all year round with a peak from May to Dec.



**Growth** (2876 records with: Jan 220, Feb 211, Mar 357, Apr 217, May 221, Jun 137, Jul 181, Aug 266, Sep 286, Oct 309, Nov 268, Dec 203): Much from Sep to May; Rare from Feb; None from Jan to Oct. Peak levels at 91% in Dec.



**Seedlings** (1173 records): Absent in 95%: fewer seedlings than prefire adults in 17 cases, and more in 12 cases. Seedlings found in Jan (2), Feb (5), Apr (3), Jun, Jul (2), Aug (5), Sep (7), Oct, Nov and Dec (2).

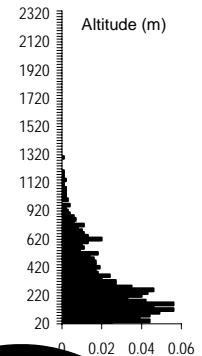
**Fire Survival** (102 records): 82% survived by seedlings only, 15% eliminated from the area by fires, 2% escaped fires in fire-safe areas, 1.0% resprouted from aerial trunks.  
**Age to first flowering:** First flowers recorded at 1 year, 50% estimated at 3-4 years, and 100% recorded at 14 years.



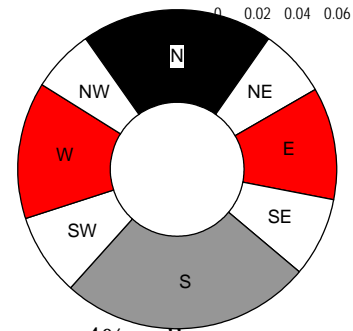
**Height** (2916 records): 8% 0-0.2 m tall, 91% 0.2-1 m tall, 1% 1-2 m tall.  
**Pollinators** (98 records): 41% bees or wasps, 21% beetles, 19% butterflies or moths, 17% flies, 1% birds.  
**Detailed Pollinators** (39 records): Honey Bee (13), Monkey Beetle (12), Solitary Bee (4), Wasp (unspecified) (2), Painted Lady Butterfly (2), Long Proboscis Fly (2), Blues Butterfly (2), Great Protea Beetle, African Monarch Butterfly.

**Habitat:**  
**Distance to Ocean** (2968 records): 95% inland - further than 2 km from coast.  
**Altitude** (2968 records): 20 - 1420 m; 100<sub>lq</sub> - 220<sub>med</sub> - 340<sub>uq</sub>m.

**Landform** (2863 records): 87% deep soil, 10% shallow soil, 3% rocky outcrops.  
**Slope** (2861 records): 51% gentle incline, 23% platform, 16% steep incline, 5% hill top, 4% valley bottom.  
**Aspect** (2222 records): 34% South, 26% North, 21% West, 18% East.



**Soil Type** (2853 records): 65% sandy, 24% loamy, 5% gravelly, 3% clayey, 2% rocky.  
**Soil Colour** (2840 records): 46% grey, 33% brown, 10% white, 4% orange, 4% yellow, 2% black, 1% red.



**Geology** (2780 records): 61% sandstone, 14% Tertiary sands, 10% shale, 6% silcrete or ferricrete, 5% limestone, 2% granite.  
**Vegetation** (2955 records): 95% shrubland, 3% plantations, 1% agricultural lands.

**Conservation Status and Threat:****Red Data List Status:** Near Threatened

A2c+4c.

Occurrence (Fynbos): 15 789 km<sup>2</sup> with 22% conserved and 26% lost; Occupancy: 2 603 km<sup>2</sup> with 23% conserved and 29% lost. Fragmentation index: 7%.

**Nature Reserves** (2968 records): 35% in nature reserves.**Habitat destruction** (2807 records):

84% extensive natural habitat, 10% islands, 3% road verges, 2% naturally linear habitats.

**Alien Invasive Species** (2806 records):38% Fabaceae (chiefly alien *Acacia*), 22% *Pinus*, 21% none, 14% *Hakea*, 4% Myrtaceae.**Alien Density** (2798 records): 21% alien-free,

52% sparse, 18% abundant, 8% dense, 1% impenetrable.

**Cultivation & Utilization:****Picking** (2207 records): 100% no sign of picking, 0.2% lightly picked.**Cultivation Status:** Plantings - 1 record.**Witch's Broom Infestation:** 1 record (0.03%).**Atlasers Notes:**

Some higher than 1m (AWA98103102); A low spreading shrub (JBB98041207); Creeping form (*selected*: AGR95042903, AGR97030115, AGR97081704, AGR97113003);

Flowers all white (but small upright bush) (SMR99090303);

Some individuals resprouting (AGRY2080917); Was common before bushcutting

(AGRY1062603+4); Bushcut except in ditch and under fence (NAHY0081701);

Looked moribund (DJL99040803);

+1 dead (AGR92012305); Lots dead- more dead than alive - probably drought - little rain so far (AGR99072902); Lots dead (40%) (AGRY0011401); More than half seen dead! (ASP94072103); About half plants dead (ASP95030209); Also 1 dead (CHE98052103); Single dead plant seen (DJL99072903); Bushes dying (GED99062203); Many plants were dying (NGF97060103); Looking stressed (NGFY1072101); Although new growth plants looked sick (OUT97030810); Die back (OUT99061203); High mortality - summer drought? (PMR97051402); Patches are dying off inside - this could be a marginal area (SHS93112904); Some patches of die-off (SMR99072906);

Only dead maybe had been very dry? (VCH98052003); Many dead plants and dying branches occurred towards eastern end of location (YDA92060801); Specially to note dwindling numbers (YDA98061401);

Pollinators: Diptera Bombyliidae - Long Proboscis Fly (CSS97113004); A small butterfly lowered briefly over se as I approached (CVV97012303); Mousirid Wasp (LYM96042505);

Serruria amongst other relics (CBE92111701); Most common in wettest area (OUT98082205);

Much sought after by funeral parlours (VJK93093006);

**Confusing Species:** Most commonly confused (58% of corrected cases) with *S. inconspicua*, which has much smaller flowers, finer leaves and leaves forming a basket around the flowerheads: in some areas clear diagnostic features were not apparent.

Also confused with sister species *S. krausii* (far larger flowerheads) and *S. zeyheri* (with black tips to the tepals), especially when not in flower. Also confused with *S. "ludwigii"* (7%; which has capitula and resprouts), and *S. phylloidea* (4%; which has large single heads with prominent involucre bracts).

Often simply not identified to species (20%).

Records of identification queries = 134.

Records of corrected identification queries = 55.

**Variation and Taxonomy:** A very variable

species, that was once recognized as 5 separate species, and which should be split into well over 5 separate species or subspecies. Some forms are now known from only a few remnant patches on the west coast: a particularly beautiful, dense-rounded flowerhead form was noted from the N1 verge at Kraaifontein Industria. The Elim-Agulhas area has a prominent creeping form. Occasional individuals resprout in some populations, but it has not been determined if this is due to particularly cool fires or an inherent resprouting ability. In the Shaw's Pass and Babilonstoring area to Bot River and Caledon it is particularly difficult to separate it from *S. inconspicua*, except in that it is a more robust plant.

In Flora Capensis Phillips and Hutchinson

erroneously separated those with many and few (less than 10) flowers per flowerhead.

- *S. pauciflora* approaches *S. inconspicua* and occurs in the Keinrivier and surrounding mountains.
- *S. knightii* (few flowers) and *S. burmannii* (many flowers per flowerhead) are the typical mountain form, characterized by only few short hairs – or none – on the tepal tips. It ranges from Bainskloof and Sir Lowries Pass to George, and on the granites and sandstone of the Cape Peninsula. *S. knightii* is based on *S. fasciflora* of Salisbury.
- *S. subsericea* is often confused with *S. candicans* (but is not as hairy or silvery coloured, and has flat hairs on the tepals) and is confined to the West Coast sandy flats.
- *S. biglandulosa* is known from only one specimen and is probably intermediate between *S. fasciflora* and *S. krausii*.

**Distribution:** Add.

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*Serruria inconspicua* Guthrie & Salter 1942  
Cryptic Spiderhead

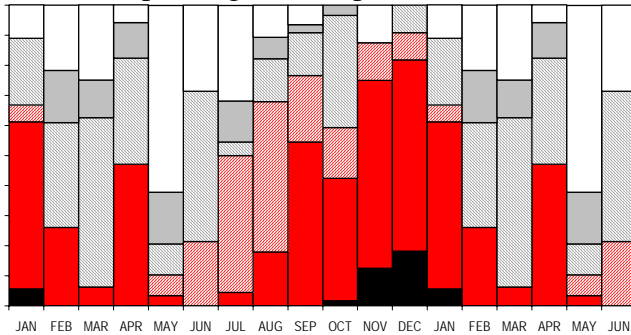
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**333 Records**

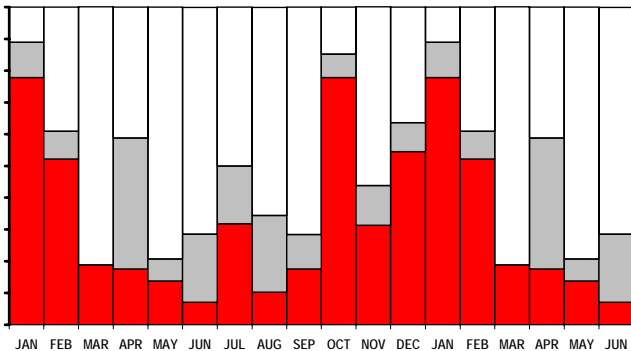
**Population** (329 records): 3% Abundant, 43% Common, 46% Frequent, 9% Rare.

**Dispersion** (317 records): 66% variable, 20% clumped, 11% widespread, 3% evenly distributed.

**Flowering** (330 records with: Jan 18, Feb 23, Mar 16, Apr 17, May 29, Jun 14, Jul 22, Aug 28, Sep 77, Oct 59, Nov 16, Dec 11): Buds from Jun to Sep; Flowering from Sep to Feb and Apr; Peak Flowering not significant; Over from Jan to Apr, Jun and Oct; Fruit not significant; Nothing from Feb to Mar and May to Jul. Peak levels at 100% in Dec. Historically recorded as flowering from Jul to Dec, peaking from Sep to Oct.



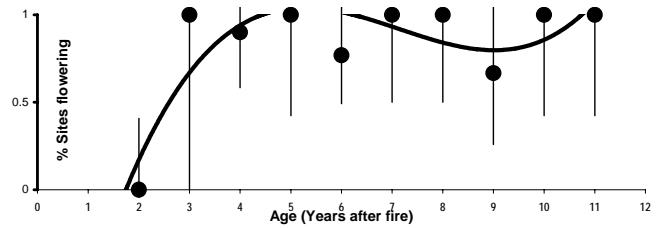
**Growth** (323 records with: Jan 18, Feb 23, Mar 16, Apr 17, May 29, Jun 14, Jul 22, Aug 29, Sep 74, Oct 54, Nov 16, Dec 11): Much from Oct to Feb and Jul; Rare from Apr, Jun and Aug; None from Feb to Sep and Nov to Dec. Peak levels at 89% in Jan.



**Seedlings** (139 records): Absent in 99%; fewer seedlings than prefire adults in 1 case. Seedlings found in Sep.

**Fire Survival** (10 records): 100% survived by seedlings only.

**Age to first flowering:** First flowers recorded at 3 years, 50% estimated at 2-3 years, and 100% recorded consistently at 7 years.



**Height** (328 records): 42% 0-0.2 m tall, 58% 0.2-1 m tall.

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

**Detailed Pollinators:** No additional data.

**Habitat:**

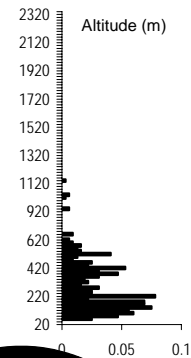
**Distance to Ocean** (319 records): 98% inland - further than 2 km from coast.

**Altitude** (319 records): 40 - 1040 m; 120<sub>iq</sub> - 220<sub>med</sub> - 300<sub>uq</sub>m.

**Landform** (318 records): 86% deep soil, 10% shallow soil, 2% rocky outcrops, 0.9% swamp, 0.6% riverine.

**Slope** (318 records): 75% gentle incline, 14% steep incline, 9% platform, 1% hill top.

**Aspect** (301 records): 33% South, 25% North, 22% West, 20% East.

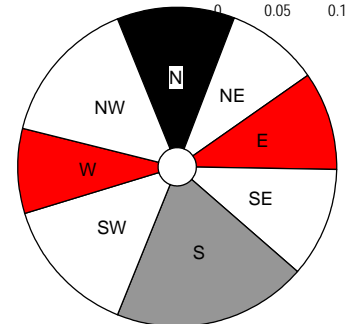


**Soil Type** (315 records): 63% sandy, 20% loamy, 9% gravelly, 6% clayey, 1% rocky.

**Soil Colour** (314 records): 58% grey, 26% brown, 5% orange, 5% white, 4% yellow, 2% black.

**Geology** (301 records): 78% sandstone, 19% shale, 3% silcrete or ferricrete.

**Vegetation** (317 records): 98% shrubland, 2% plantations.



**Conservation Status and Threat:**

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

**Occurrence (Fynbos):** 1 324 km<sup>2</sup> with 27% conserved and 32% lost; **Occupancy:** 193 km<sup>2</sup> with 35% conserved and 29% lost. Fragmentation index: 8%.

**Nature Reserves** (319 records): 59% in nature reserves - well conserved.

**Habitat destruction** (313 records): 94% extensive natural habitat, 4% islands.

**Alien Invasive Species** (309 records): 45% *Pinus*, 26% none, 20% Fabaceae (chiefly alien *Acacia*), 8% *Hakea*.

**Alien Density** (308 records): 26% alien-free, 56% sparse, 14% abundant, 3% dense, 1% impenetrable.

**Cultivation & Utilization:**

**Picking** (224 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Only 2 plants in older veld while frequent in younger veld (KWD92100404); The only plants seen were small young plants on a patch that had burnt about 1 year ago (SMR97022007);

**Confusing Species:** Confused with *S. fasciflora* only. In many cases it is not possible to easily determine if the plants are a robust form of *S. inconspicua* or a robust

form of *S. fasciflora*. The area north of Hemel and Aarde is the most problematic region in this regard.

Records of identification queries = 46.

Records of corrected identification queries = 26.

**Variation and Taxonomy:** Not much variation noted, mostly attributable to intermediates with *S. fasciflora*.

**Distribution:** Add.

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*Serruria krausii* Meisn. 1856  
Snowball Spiderhead

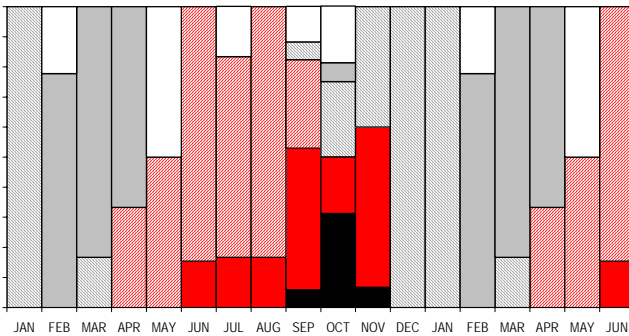
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**107 Records**

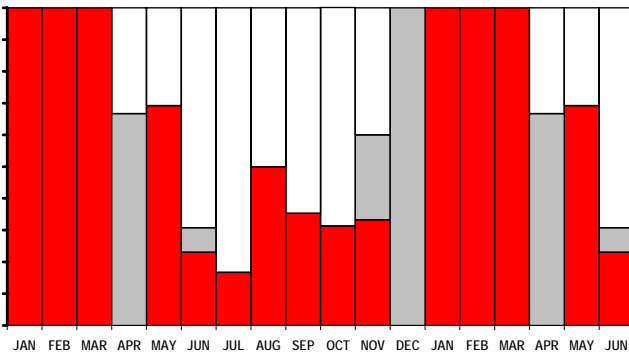
**Population** (107 records): 13% Common, 56% Frequent, 31% Rare.

**Dispersion** (89 records): 52% variable, 47% clumped, 1% evenly distributed.

**Flowering** (105 records with: Jan 1, Feb 9, Mar 6, Apr 3, May 12, Jun 13, Jul 6, Aug 6, Sep 17, Oct 16, Nov 15, Dec 1): Buds from Apr to Sep; Flowering from Sep to Nov; Peak Flowering from Oct; Over from Oct to Jan; Fruit from Feb to Apr; Nothing from Feb and May. Peak levels at 100% in Nov. Historically recorded as flowering from Jul to Nov.



**Growth** (106 records with: Jan 1, Feb 9, Mar 6, Apr 3, May 13, Jun 13, Jul 6, Aug 6, Sep 17, Oct 16, Nov 15, Dec 1): Much from all year round; Rare from Apr and Nov to Dec; None from Apr to Nov. Peak levels at 100% from Dec to Mar.



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

**Fire Survival** (9 records): 89% survived by seedlings only, 11% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 2 years, 50% estimated at 3 years, and 100% consistently recorded at 6 years.



**Height** (106 records): 2% 0-0.2 m tall, 91% 0.2-1 m tall, 8% 1-2 m tall.

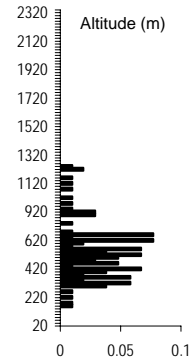
**Pollinators** (7 records): 57% beetles, 14% butterflies or moths, 14% bees or wasps, 14% flies.

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

**Habitat:**

**Distance to Ocean** (104 records): 100% inland - further than 2 km from coast.

**Altitude** (104 records): 140 - 1140 m; 380 *lq* - 500 *med* - 600 *uq*m.



**Landform** (104 records): 94% deep soil, 5% shallow soil, 1.0% rocky outcrops.

**Slope** (104 records): 51% steep incline, 47% gentle incline, 1% cliff, 1% valley bottom.

**Aspect** (103 records): 57% South, 16% East, 15% West, 12% North.

**Soil Type** (104 records):

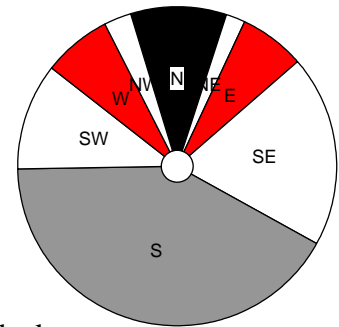
44% loamy, 25% sandy, 22% clayey, 9% gravelly.

**Soil Colour** (104 records):

82% brown, 8% grey, 5% orange, 4% yellow, 2% black.

**Geology** (98 records): 45% sandstone, 29% shale, 24% granite, 2% conglomerate.

**Vegetation** (104 records): 89% shrubland, 10% plantations, 1% agricultural lands.



**Conservation Status and Threat:**

**Red Data List Status:** Vulnerable A2c, B1a(ii)b(i,ii,iii,iv,v)+2a(ii)b(i,ii,iii,iv,v).

**Occurrence** (Fynbos): 132 km<sup>2</sup> with 36% conserved and 22% lost; **Occupancy:** 63 km<sup>2</sup> with 40% conserved and 14% lost. **Fragmentation index:** 47%.

**Nature Reserves** (104 records): 71% in nature reserves - well conserved.

**Habitat destruction** (103 records): 94% extensive natural habitat, 6% islands.

**Alien Invasive Species** (98 records): 46% *Pinus*, 34% none, 14% *Hakea*, 4% Fabaceae (chiefly alien *Acacia*), 2% Myrtaceae.



**Alien Density** (98 records): 34% alien-free,  
50% sparse, 13% abundant, 3% dense.

**Cultivation & Utilization:**

**Picking** (52 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Only flowering in top section of plot  
(GYC93102201); 1.8 m tall with seeds from  
2 flowerings (GYC94050505);

Green Flower Beetles (AGR97112306);

This is probably a new population is this rare  
species on granite clay sands with large  
surface stones seasonally moist along road  
(NAH97020301);

**Confusing Species:** Misidentified as *S.*  
*fasciflora* (which has much smaller  
flowerheads), and when not in flower as *S.*  
*rosea* and *S. decipiens*.

Records of identification queries = 14.

Records of corrected identification queries = 6.

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

**Distribution:** Add.

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*Serruria viridifolia* Rourke 1990  
Mat Spiderhead

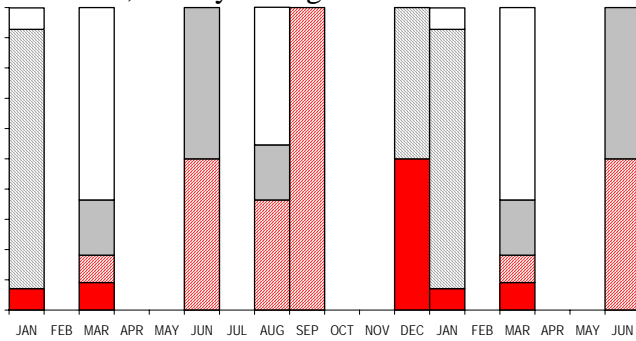
**Other Common Names:** None known.  
**Other Scientific Names:** *glabra nomen nudum*  
- in Tansley.

**44 Records**

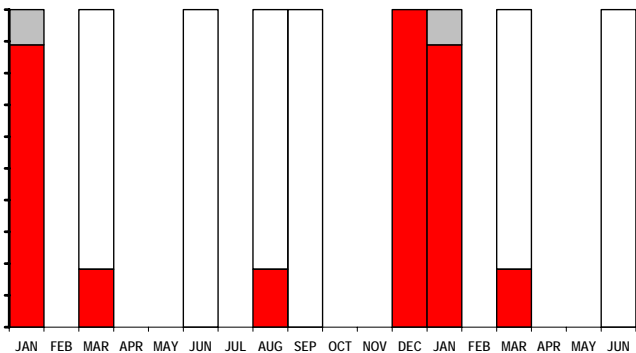
**Population** (43 records): 16% Common, 72% Frequent, 12% Rare.

**Dispersion** (43 records): 63% variable, 35% clumped, 2% evenly distributed.

**Flowering** (43 records with: Jan 14, Feb 0, Mar 11, Apr 0, May 0, Jun 2, Jul 0, Aug 11, Sep 3, Oct 0, Nov 0, Dec 2): Buds from Jun to Sep; Flowering from Dec; Peak Flowering not recorded; Over from Dec to Jan; Fruit from Jun; Nothing from Mar and Aug. Peak levels unreliable at 100% from Sep to Dec. Historically recorded as flowering from Sep to Dec, mainly during Oct to Nov.



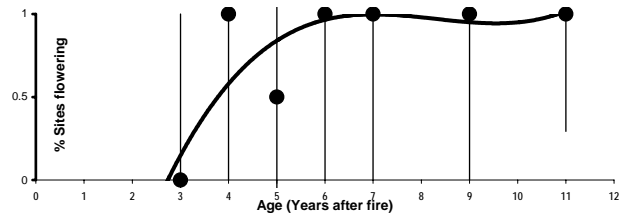
**Growth** (37 records with: Jan 9, Feb 0, Mar 11, Apr 0, May 0, Jun 2, Jul 0, Aug 11, Sep 3, Oct 0, Nov 0, Dec 1): Much from Dec to Jan; Rare not significant; None from Mar to Sep. Peak levels unreliable at 100% from Dec to Jan.



**Seedlings** (19 records): All without any seedlings present.

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

**Age to first flowering:** First flowers recorded at 4 years, 50% estimated at 4-5 years, and 100% recorded consistently at 6 years.



**Height** (44 records): 68% 0-0.2 m tall, 32% 0.2-1 m tall.

**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

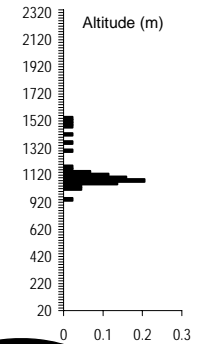
**Distance to Ocean** (44 records): 100% inland - further than 2 km from coast.

**Altitude** (44 records): 820 - 1440 m; 960 *lq* - 980 *med* - 980 *uq* m.

**Landform** (44 records): 91% deep soil, 9% shallow soil.

**Slope** (43 records): 77% gentle incline, 19% platform, 2% steep incline, 2% valley bottom.

**Aspect** (36 records): 47% North, 38% East, 14% West, 1% South.



**Soil Type** (44 records):

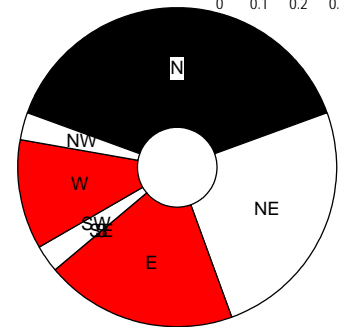
84% sandy, 9% loamy, 5% rocky, 2% gravelly.

**Soil Colour** (43 records):

53% grey, 26% brown, 19% white, 2% yellow.

**Geology** (43 records): 81% sandstone, 19% shale.

**Vegetation** (42 records): 98% shrubland, 2% grassland.



**Conservation Status and Threat:**

**Red Data List Status:** Vulnerable D2(ii).

Occurrence (Fynbos): 108 km<sup>2</sup> with 19% conserved and 1% lost; Occupancy: 34 km<sup>2</sup> with 18% conserved and 0% lost. Fragmentation index: 21%.

**Nature Reserves** (44 records): 5% in nature reserves - unconserved.

**Habitat destruction** (43 records): 95% extensive natural habitat, 2% islands, 2% corridors.

**Alien Invasive Species** (44 records):

52% *Hakea*, 30% none, 16% *Pinus*, 2% Fabaceae (chiefly alien *Acacia*).

**Alien Density** (44 records): 30% alien-free, 70% sparse.

**Cultivation & Utilization:**

**Picking** (29 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

At first I thought that all the plants had escaped fire as there were quite a few seedlings. But closer inspection revealed that the plants accumulate debris and produce roots from stems within these - these survive the fires and resprout. About 60-80% of plants survived the fire - a weak resprouter!  
(AGRY1032312);

Some debate as to whether this is the real thing - this plant is not totally prostrate but a sprawling bush - suggested intermediate between *S. viridifolia* and *S. inconspicua*?  
(SHR95011404+06);

**Confusing Species:** Mistaken for *S. inconspicua*, which is very much finer, and not a bright green, almost succulent plant.  
Records of identification queries = 10.  
Records of corrected identification queries = 5.

**Variation and Taxonomy:** North of Wolfieskop the plants sprawl rather than form mats.

**Distribution:** Add.

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*Serruria zeyheri* Meisn. 1856  
Matchstick Spiderhead

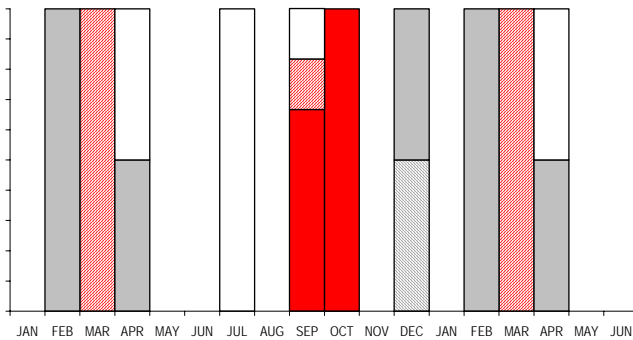
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**14 Records**

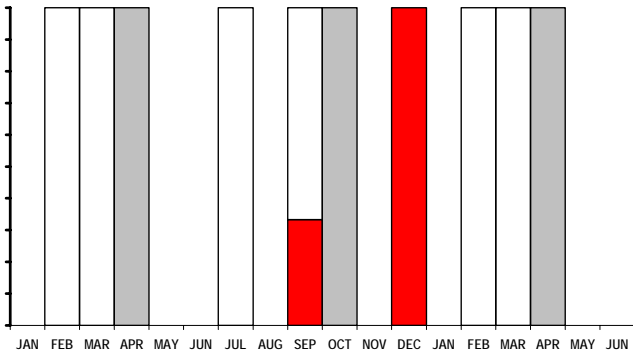
**Population** (14 records): 21% Common, 71% Frequent, 7% Rare.

**Dispersion** (13 records): 46% variable, 46% clumped, 8% widespread.

**Flowering** (14 records with: Jan 0, Feb 1, Mar 1, Apr 2, May 0, Jun 0, Jul 1, Aug 0, Sep 6, Oct 1, Nov 0, Dec 2): Buds from Mar; Flowering from Sep to Oct; Peak Flowering not recorded; Over from Dec; Fruit from Dec to Feb and Apr; Nothing from Apr to Jul. Peak levels unreliable at 100% in Oct. Historically recorded as flowering from Aug to Nov.



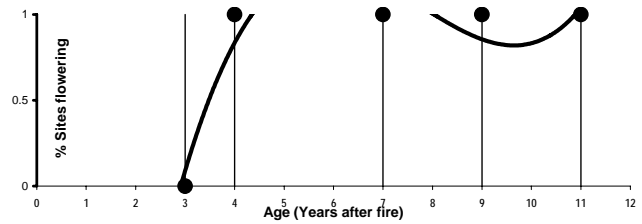
**Growth** (14 records with: Jan 0, Feb 1, Mar 1, Apr 2, May 0, Jun 0, Jul 1, Aug 0, Sep 6, Oct 1, Nov 0, Dec 2): Much from Sep and Dec; Rare from Apr and Oct; None from Feb to Mar and Jul to Sep. Peak levels unreliable at 100% in Oct to Dec.



**Seedlings** (9 records): All without any seedlings present.

**Fire Survival** : No data.

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



**Height** (14 records): 14% 0-0.2 m tall, 79% 0.2-1 m tall, 7% 1-2 m tall.

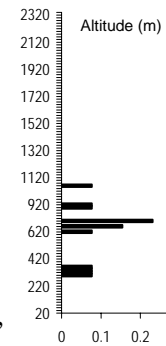
**Pollinators** (1 record): 100% bees or wasps.

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

**Habitat:**

**Distance to Ocean** (13 records): 100% inland - further than 2 km from coast.

**Altitude** (13 records): 280 - 960 m; 340 *lq* - 660 *med* - 660 *uq*m.



**Landform** (13 records): 92% deep soil, 8% shallow soil.

**Slope** (13 records): 46% gentle incline, 31% steep incline, 15% hill top, 8% valley bottom.

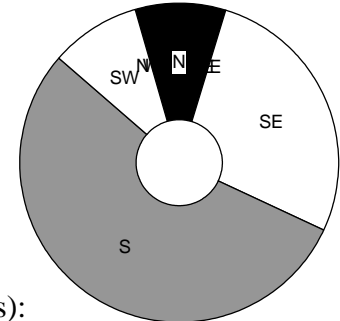
**Aspect** (11 records): 77% South, 9% North, 9% East, 5% West.

**Soil Type** (13 records): 54% loamy, 23% sandy, 15% gravelly, 8% clayey.

**Soil Colour** (13 records): 69% brown, 31% grey.

**Geology** (12 records): 50% shale, 42% sandstone, 8% granite.

**Vegetation** (13 records): 100% shrubland.



**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 109 km<sup>2</sup> with 53% conserved and 5% lost; **Occupancy:** 11 km<sup>2</sup> with 59% conserved and 3% lost.

**Fragmentation index:** 9%.

**Nature Reserves** (13 records): 69% in nature reserves - well conserved.

**Habitat destruction** (13 records):

100% extensive natural habitat.

**Alien Invasive Species** (13 records):

77% *Pinus*, 15% Fabaceae (chiefly alien *Acacia*), 8% none.

**Alien Density** (13 records): 8% alien-free, 46% sparse, 23% abundant, 15% dense, 8% impenetrable.

**Cultivation & Utilization:**

**Picking** (11 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Sweetly scented (SHR97091404);

**Confusing Species:** Although easy to confuse with *S. fasciflora* it is too rare to readily come into contention. The leaves are far longer than typical of *S. fasciflora*.  
Records of identification queries = 1.

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

**Distribution:** Add.

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*Serruria adscendens* (Lam.) R.Br. 1791, 1810  
**Kleinmond Spiderhead**

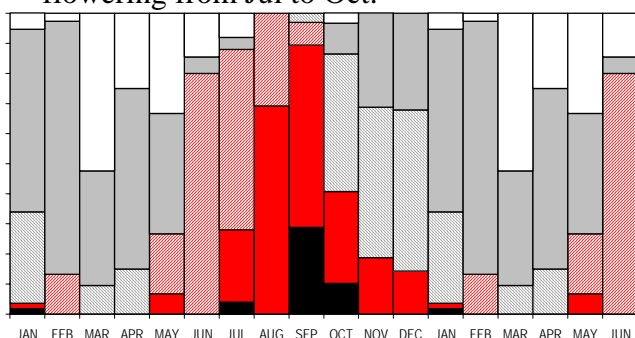
**Other Common Names:** None known.  
**Other Scientific Names:** *compar* (Poir) 1816.

**417 Records**

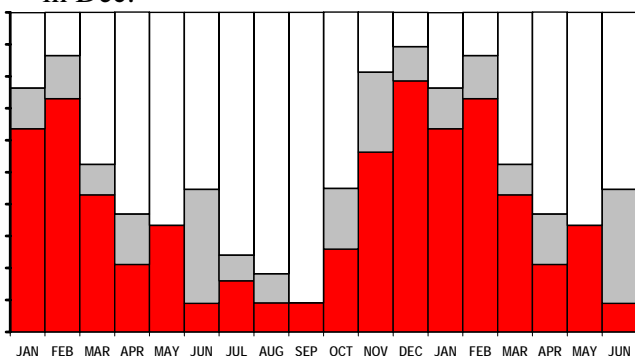
**Population** (415 records): 7% Abundant, 51% Common, 38% Frequent, 5% Rare.

**Dispersion** (402 records): 70% variable, 17% clumped, 10% widespread, 2% evenly distributed.

**Flowering** (412 records with: Jan 56, Feb 38, Mar 21, Apr 20, May 15, Jun 55, Jul 25, Aug 13, Sep 66, Oct 59, Nov 16, Dec 28): Buds from May to Aug; Flowering from Jul to Oct; Peak Flowering from Sep; Over from Oct to Jan; Fruit from Nov to May; Nothing from Mar to May. Peak levels at 100% from Aug to Sep. Historically recorded as flowering from Jul to Oct.



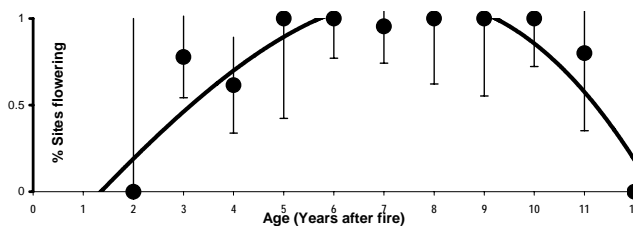
**Growth** (407 records with: Jan 55, Feb 37, Mar 21, Apr 19, May 15, Jun 56, Jul 25, Aug 11, Sep 66, Oct 58, Nov 16, Dec 28): Much from Oct to May; Rare from Jun and Nov; None from Jan and Mar to Oct. Peak levels at 89% in Dec.



**Seedlings** (169 records): Absent in 91%; fewer seedlings than prefire adults in 3 cases, and more in 5 cases. Seedlings found in May, Jun (4), Jul and Oct (2).

**Fire Survival** (13 records): 62% survived by seedlings only, 23% resprouted from underground boles, 8% eliminated from the area by fires, 8% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 3 years, 50% estimated at 2-3 years, and 100% recorded at 5 years, with some senescence recorded after 11 years, although still present at 21 years.



**Height** (413 records): 11% 0-0.2 m tall, 89% 0.2-1 m tall.

**Pollinators** (8 records): 50% beetles, 38% bees or wasps, 13% none observed.

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

**Habitat:**

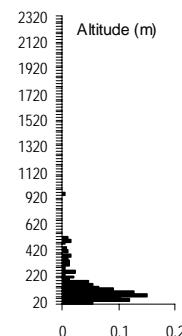
**Distance to Ocean** (392 records): 75% coastal - less than 2 km from coast.

**Altitude** (392 records): 20 - 860 m; 40 *lq* - 80 *med* - 100 *ug*m.

**Landform** (388 records): 68% deep soil, 20% shallow soil, 11% rocky outcrops, 1% swamp.

**Slope** (387 records): 50% gentle incline, 35% steep incline, 10% platform, 2% valley bottom, 2% hill top.

**Aspect** (345 records): 43% South, 28% West, 19% East, 10% North.

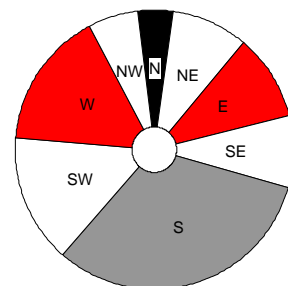


**Soil Type** (387 records): 75% sandy, 11% loamy, 6% gravelly, 5% rocky, 2% peaty.

**Soil Colour** (385 records): 77% grey, 9% brown, 7% white, 5% black, 1% orange.

**Geology** (384 records): 96% sandstone, 3% Tertiary sands, 1% shale.

**Vegetation** (387 records): 99% shrubland, 1% thicket.



**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened A2c, B1b(i)c(iv)+2b(i)c(iv).

**Occurrence** (Fynbos): 944 km<sup>2</sup> with 26% conserved and 27% lost; **Occupancy:** 207 km<sup>2</sup> with 38% conserved and 18% lost. **Fragmentation index:** 17%.

**Nature Reserves** (392 records): 47% in nature reserves.

**Habitat destruction** (384 records): 96% extensive natural habitat, 2% islands, 2% naturally linear habitats.

**Alien Invasive Species** (378 records): 55% none, 29% Fabaceae (chiefly alien)

*Acacia*), 13% *Pinus*, 2% *Hakea*,  
1% Myrtaceae.

**Alien Density** (378 records): 55% alien-free,  
41% sparse, 3% abundant, 1% dense.

**Cultivation & Utilization:**

**Picking** (276 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:**

Lots of small plants in open spaces  
(APE92060702);

Thicker form when coastal - leaves tending  
forwards fleshy lower leaves persistent when  
dead (GED99102706);

Specially to note dwindling numbers of plants  
(YDA98061401);

**Confusing Species:** Easily confused with *S.*  
*rubricaulis*, but this species is single  
stemmed and does not resprout after fires. A  
single record of misidentification with *S.*  
*rostellaris*, which has capitula.

Records of identification queries = 16.

Records of corrected identification queries = 1.

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

**Distribution:** Add.

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*Serruria bolusii* Phill. & Hutch. 1912  
**Viljoenshof Spiderhead**

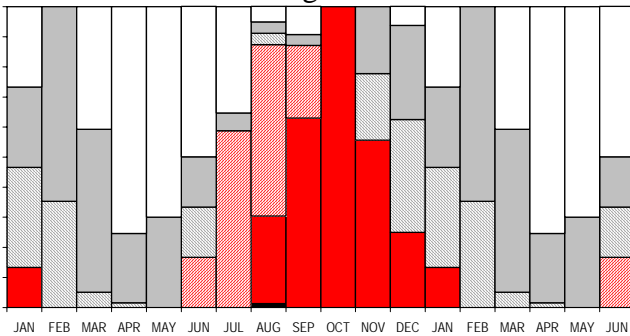
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**458 Records**

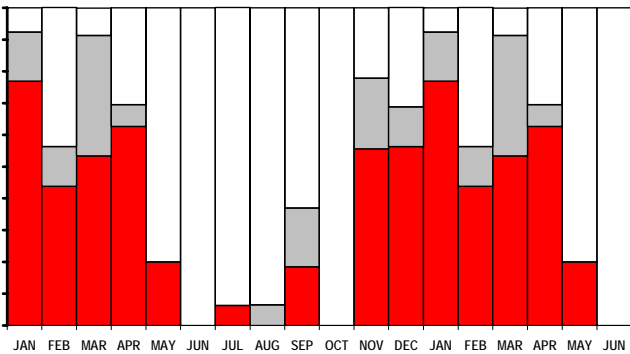
**Population** (451 records): 3% Abundant, 37% Common, 51% Frequent, 9% Rare.

**Dispersion** (387 records): 74% variable, 21% clumped, 4% widespread.

**Flowering** (408 records with: Jan 15, Feb 17, Mar 59, Apr 61, May 10, Jun 6, Jul 34, Aug 79, Sep 54, Oct 3, Nov 54, Dec 16): Buds from Jul to Sep; Flowering from Aug to Dec; Peak Flowering not significant; Over from Nov to Feb; Fruit from Nov to May; Nothing from Jan and Mar to Jul. Peak levels unreliable at 100% in Oct. Historically recorded as flowering from Jul to Nov.



**Growth** (398 records with: Jan 13, Feb 16, Mar 58, Apr 59, May 10, Jun 6, Jul 32, Aug 77, Sep 54, Oct 3, Nov 54, Dec 16): Much from Nov to Apr; Rare from Mar and Nov; None from Feb and Apr to Dec. Peak levels at 92% in Jan.



**Seedlings** (190 records): Absent in 98%; fewer seedlings than prefire adults in 2 cases. Seedlings found in Aug and Sep.

**Fire Survival** (18 records): 83% survived by seedlings only, 11% eliminated from the area by fires, 6% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 1 year, 50% estimated at 2-3 years, and 100% consistently recorded at 6 years.



**Height** (408 records): 13% 0-0.2 m tall, 87% 0.2-1 m tall.

**Pollinators** (4 records): 75% bees or wasps, 25% beetles.

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

**Habitat:**

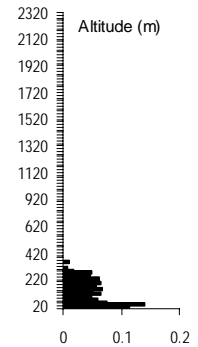
**Distance to Ocean** (453 records): 91% inland - further than 2 km from coast.

**Altitude** (453 records): 20 - 580 m; 20 *lq* - 80 *med* - 140 *uq*m.

**Landform** (404 records): 88% deep soil, 5% swamp, 5% shallow soil, 1% rocky outcrops.

**Slope** (403 records): 52% gentle incline, 31% platform, 8% hill top, 4% steep incline, 4% valley bottom.

**Aspect** (280 records): 35% South, 27% North, 25% East, 13% West.

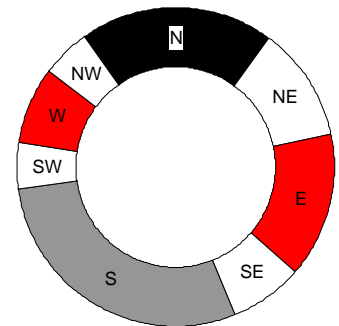


**Soil Type** (403 records): 83% sandy, 12% loamy, 3% clayey, 1% gravelly.

**Soil Colour** (401 records): 55% grey, 20% brown, 16% white, 5% yellow, 2% black, 1% orange.

**Geology** (393 records): 67% sandstone, 11% limestone, 9% silcrete or ferricrete, 8% Tertiary sands, 5% shale.

**Vegetation** (450 records): 98% shrubland, 1% agricultural lands, 1% plantations.



**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened A2c. Occurrence (Fynbos): 1 513 km<sup>2</sup> with 5% conserved and 37% lost; Occupancy: 466 km<sup>2</sup> with 10% conserved and 21% lost. Fragmentation index: 26%.

**Nature Reserves** (453 records): 17% in nature reserves - inadequately conserved.

**Habitat destruction** (393 records): 86% extensive natural habitat, 8% islands, 3% naturally linear habitats, 1% road verges.

**Alien Invasive Species** (396 records):

47% Fabaceae (chiefly alien *Acacia*),  
24% none, 22% *Pinus*, 4% Myrtaceae,  
3% *Hakea*.

**Alien Density** (395 records): 24% alien-free,  
51% sparse, 20% abundant, 5% dense,  
1% impenetrable.

**Cultivation & Utilization:**

**Picking** (309 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:** None.

**Confusing Species:** Originally atlassed as *S. nervosa* - only recognized as a distinct species from this when sufficient data had been assembled, well into the atlas project. Data were subsequently field checked and changed appropriately. It differs from the far more localized *S. nervosa* which typically is erect with a very few (usually single) heads,

in being relatively prostrate and with multiple heads. Also confused with *S. adscendens* (64% of cases, which does not have ribbed bracts), *S. rubricaulis* (20%, which resprouts) and *S. fasciflora* (4%, which has straight styles), mainly by atlassers convinced that it was not *S. nervosa*.

Records of identification queries = 327.

Records of corrected identification queries = 25.

**Variation and Taxonomy:** No significant variation noted. Originally considered synonymous to *S. nervosa*, this is clearly not the case.

**Distribution:** Add.

INCLUDEPICTURE

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*Serruria collina* Salisb. ex Kn. 1809  
**Lost Spiderhead**

**Redo this species!**

Historically recorded as flowering from Jul to Oct.

**1 Records**

**Population** (1 records): 0% Common,

*Serruria collina collina* Salisb. ex Kn. 1809  
**Northern Lost Spiderhead**

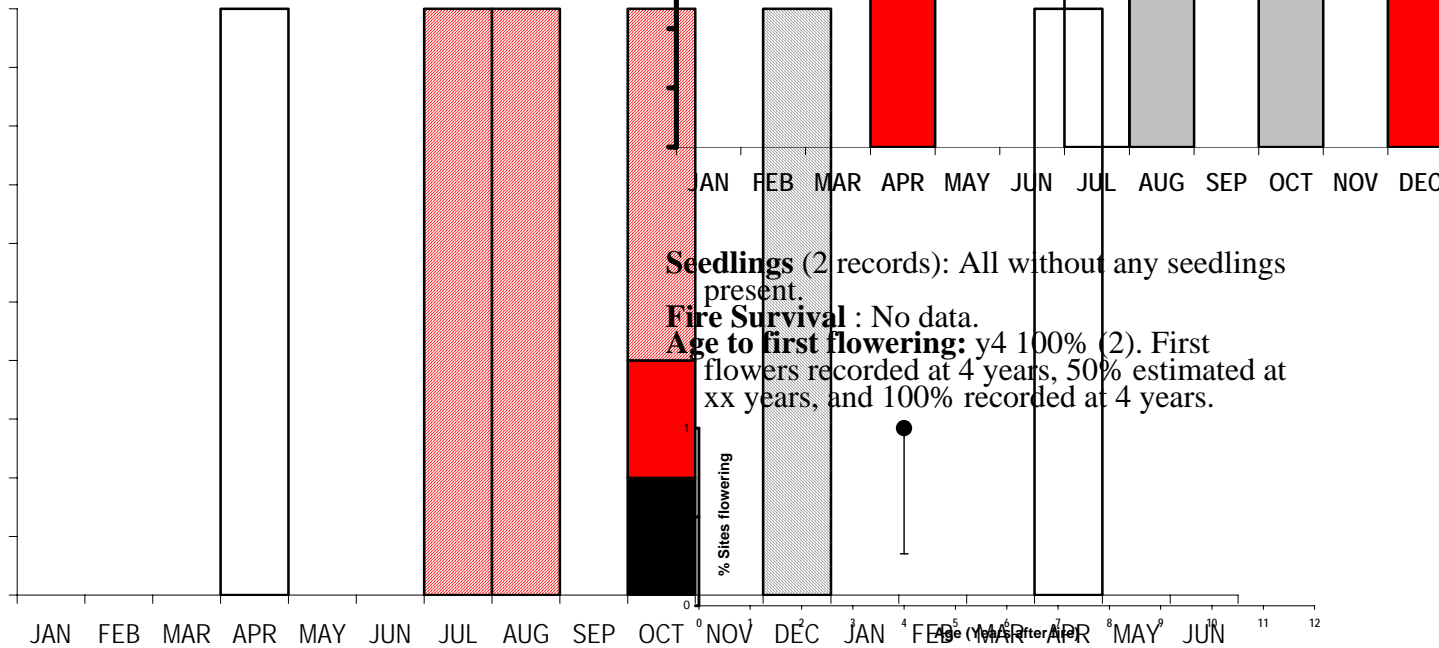
**Other Common Names:** Hill Serruria.  
**Other Scientific Names:** *flagellaris* (Poir) 1816.

**10 Records**

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

**Dispersion** (6 records): 83% clumped, 17% variable.

**Flowering** (10 records with: Jan 0, Feb 0, Mar 0, Apr 1, May 0, Jun 0, Jul 2, Aug 1, Sep 0, Oct 5, Nov 0, Dec 1): Buds from Jul 100 - Aug 100 - Oct 60 -; Flowering from Oct 20 -; Peak Flowering from Oct 20 -; Over from Dec 100 -; Fruit from; Nothing from Apr 100. Peak levels at % in. Historically recorded as flowering from XXX.



**Growth** (9 records with: Jan 0, Feb 0, Mar 0, Apr 1, May 0, Jun 0, Jul 2, Aug 1, Sep 0, Oct 4, Nov 0, Dec 1): Much from Apr 100 - Dec 100 -; Rare from Aug 100 - Oct 50 -; None from Jul 100 - Oct 50.

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

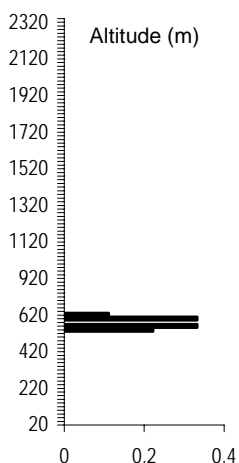
**Pollinators**: No data.

**Detailed Pollinators**: No additional data.

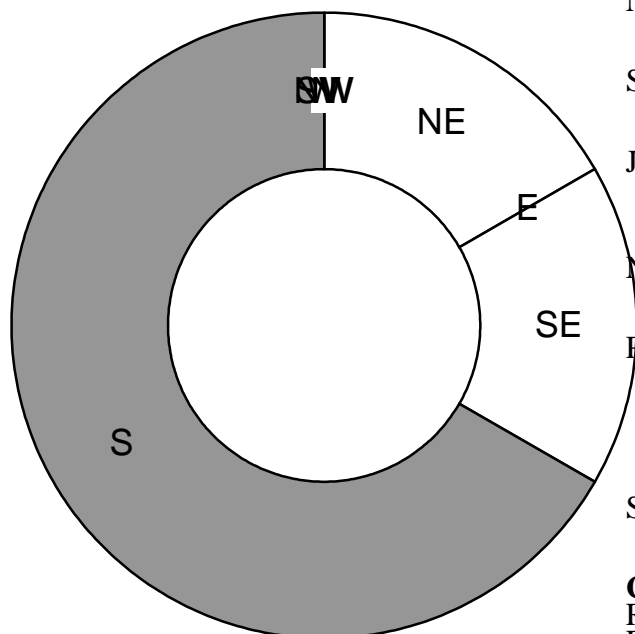
**Habitat:**

**Distance to Ocean** (9 records): 100% coastal - less than 2 km from coast.

**Altitude** (9 records): 520 - 620 m; 540<sub>lq</sub> - 560<sub>med</sub> - 560<sub>uq</sub>m.



**Landform** (9 records): 67% deep soil, 22% shallow soil, 11% swamp.  
**Slope** (9 records): 56% gentle incline, 11% steep incline, 11% hill top, 11% valley bottom, 11% platform.  
**Aspect** (6 records): 75% South, 17% East, 8% North.



**Soil Type** (8 records): 100% sandy.  
**Soil Colour** (8 records): 88% grey, 13% brown.  
**Geology** (9 records): 100% sandstone.  
**Vegetation** (9 records): 100% shrubland.

**Conservation Status and Threat:**

**Red Data List Status:**

Occurrence (Fynbos): km2 with % conserved and % lost; Occupancy: km2 with % conserved and % lost. Fragmentation index: %.

**Nature Reserves** (9 records): 100% in nature reserves - well conserved.  
**Habitat destruction** (7 records): 100% extensive natural habitat.  
**Alien Invasive Species** (8 records): 75% none, 13% Fabaceae (chiefly alien *Acacia*), 13% *Pinus*.  
**Alien Density** (8 records): 75% alien-free, 25% sparse.

**Cultivation & Utilization:**

**Picking** (6 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

LYM99101202 FL Some Se Coll Had Flowerd;  
 SHR95100101 FL Is Flowering For At Least The Second Year;  
 AJT93041801 ID ! Identification Queried: Se Cyan - Originally Atlassed As Se Cyan - Changed To Se Collina And Then Changed Back Again - Is Probably Se Coll -changed;  
 LYM97101401 ID ! Se Collina Looks Very Different To That Occurring On Rooikrans And Teeberg;  
 NGF94101502 ID ! Se Coll Is Most Impressive I Thought I Hope My Photographs Come Out Nicely;  
 SHR95100101 ID ! Se Coll On Lower S Slope Of Suther Peak Has Multiple Flowerheads & Is Multi - Stemmed;  
 JID97070701 PS Single Well-established Platan Of Se Coll Found Near Small Concrete Structure On Illusive Path Up N Side Of Beaconed Koppie;  
 NGF94101502 PS Se Coll Could Only Be Found In One Clumped Site And No Where Else;  
 PVR95082306 PS The Se Coll Are The Fine Leaf Form & Occur On The South Facing Slope On The N Side Of This Wetland - A Very Different Growth Form To The Se Coll Which Are Found On The N Slopes Of Rooikrantz - Jpr Happy With Se Coll;  
 SHR95100101 PS Se Coll On Lower S Slope Of Suther Peak;

**Confusing Species:** Add.

Records of identification queries = 4  
 Records of corrected identification queries = 1 = 0.0%.  
 , SECYAN

**Variation and Taxonomy:** Add.

**Distribution:** Add.

INCLUDEPICTURE

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*Serruria collina flagellaris* R.Br.  
Southern Lost Spiderhead

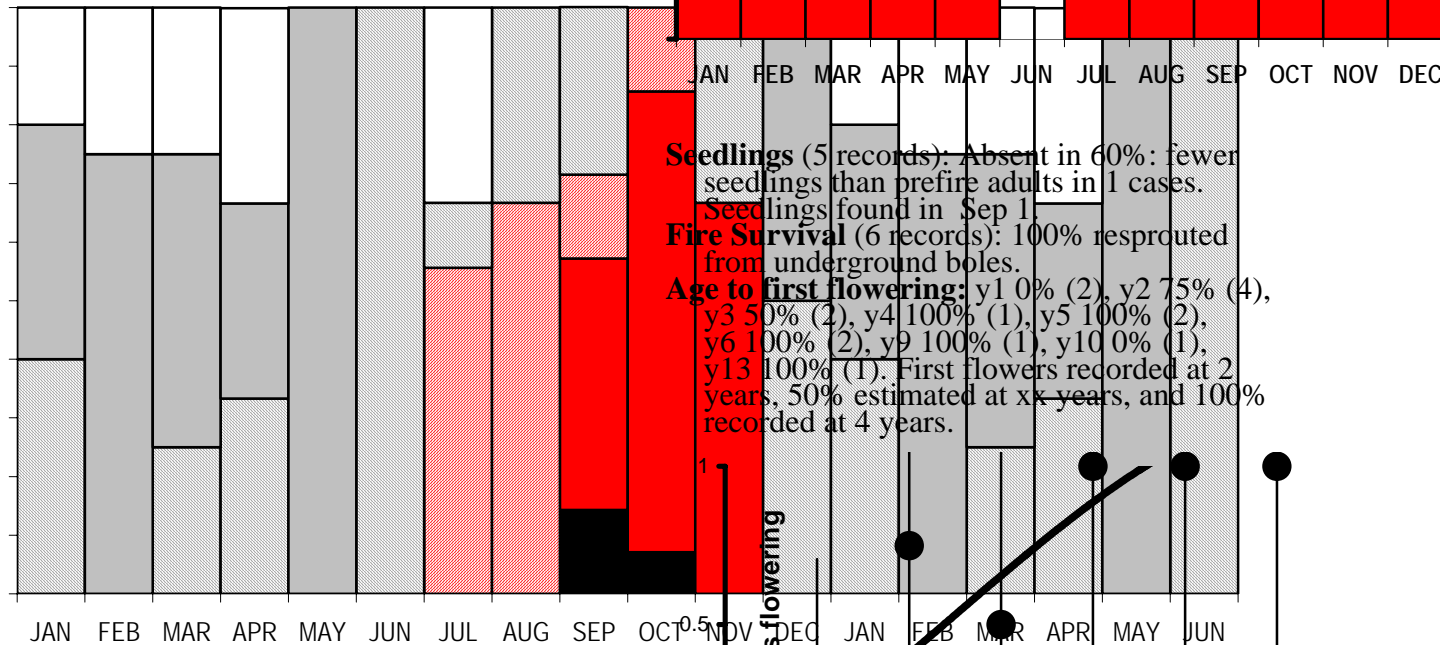
**Other Common Names:** None known.  
**Other Scientific Names:** *None*.

**57 Records**

**Population** (57 records): 4% Common, 53% Frequent, 42% Rare, 2% Extinct.

**Dispersion** (45 records): 56% clumped, 40% variable, 4% evenly distributed.

**Flowering** (56 records with: Jan 5, Feb 4, Mar 4, Apr 3, May 1, Jun 1, Jul 9, Aug 3, Sep 7, Oct 14, Nov 3, Dec 2): Buds from Jul 56 - Aug 67 - Sep 14 - Oct 14 -; Flowering from Sep 43 - Oct 79 - Nov 67 -; Peak Flowering from Sep 14 - Oct 7 -; Over from Jan 40 - Mar 25 - Apr 33 - Jun 100 - Jul 11 - Aug 33 - Sep 29 - Nov 33 - Dec 50 -; Fruit from Jan 40 - Feb 75 - Mar 50 - Apr 33 - May 100 - Dec 50 -; Nothing from Jan 20 - Feb 25 - Mar 25 - Apr 33 - Jul 33. Peak levels at % in. Historically recorded as flowering from XXX.



**Growth** (51 records with: Jan 5, Feb 4, Mar 4, Apr 3, May 1, Jun 0, Jul 8, Aug 3, Sep 6, Oct 12, Nov 3, Dec 2): Much from Jan 20 - Feb 50 - Mar 50 - Apr 33 - May 100 - Jul 38 - Aug 33 - Sep 67 - Oct 8 - Nov 67 - Dec 100 -; Rare from Jan 40 - Mar 25 - Apr 67 - Aug 33 - Sep 17 - Oct 33 -; None from Jan 40 - Feb 50 - Mar 25 - Jul 63 - Aug 33 - Sep 17 - Oct 58 - Nov 33.

**Height** (56 records): 48% 0-0.2 m tall, 52% 0.2-1 m tall.

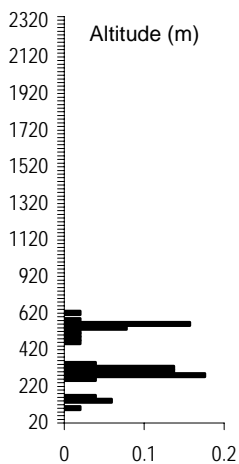
**Pollinators** (2 records): 50% bees or wasps, 50% flies.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (51 records): 65% inland - further than 2 km from coast.

**Altitude** (51 records): 80 - 620 m; 260<sub>lq</sub> - 280<sub>med</sub> - 300<sub>uq</sub>m.



**Landform** (51 records): 78% deep soil, 12% rocky outcrops, 10% shallow soil.

**Slope** (51 records): 61% gentle incline, 31% steep incline, 4% platform, 2% hill top, 2% valley bottom.

**Aspect** (48 records): 65% South, 16% West, 15% East, 5% North.

**LError! Bookmark not defined.**

**Soil Type** (50 records): 88% sandy, 8% loamy, 2% peaty, 2% gravelly.

**Soil Colour** (49 records): 73% grey, 24% brown, 2% black.

**Geology** (51 records): 100% sandstone.

**Vegetation** (50 records): 100% shrubland.

#### Conservation Status and Threat:

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

Occurrence (Fynbos): 31 km<sup>2</sup> with 60% conserved and 13% lost; Occupancy: 9 km<sup>2</sup> with 59% conserved and 10% lost. Fragmentation index: 20%.

**Nature Reserves** (51 records): 45% in nature reserves.

**Habitat destruction** (50 records): 100% extensive natural habitat.

**Alien Invasive Species** (48 records): 79% none, 19% Fabaceae (chiefly alien *Acacia*), 2% *Pinus*.

**Alien Density** (48 records): 79% alien-free, 17% sparse, 4% dense.

#### Cultivation & Utilization:

**Picking** (28 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

#### Atlassers Notes:

PVR95070506 FS The Se Coll F Survived The Fire By Being Protected By Rocks;

AGRY3090709 ID ! Atlassed As Se Coll C - But Is Se Coll F - The Creeping Form With A Rootstock ! Se Collina Collina Creeping Form - Not Like The Erect Form At The Summit ;;

AJT94100201 ID ! Identification Queried: Both Se Cyan And Se Coll F On Srs - No One Else Has Got Se Cyan Up Here - Rejected: Notes: Se Cyan Fvnn2 Secollc Fvbn1;

AKS94072004 ID ! Se Collina When Resprouting Is Difficult To Distinguish From Peucedanum Ferrulaceum;

PVR92102805 ID ! Identification Queried: Atlassed As Se Decu - But Is Se Collina - Specimen Seen - Changed;

PVR92102806 ID ! Identification Queried: Atlassed As Se Decu - But Is Se Collina - Specimen Seen - Changed;

PVR93061207 ID ! Sample Of Se Coll Also Attached - Confirmed;

PVR94080404 ID ! Atlassed As Se Coll - But Is Se Coll F - The Creeping Form With A Rootstock;

PVR95070506 ID ! Identification Queried: Atlassed As Se Decu - Is Se Coll;

PVR95070507 ID ! Identification Queried: Atlassed As Se Decu - Is Se Coll;

PVR95082304 ID ! Atlassed As Se Coll - Is Se Coll F - The Creeping Form With A Rootstock;

WIJ93092604 ID ! Atlassed As Se Coll C - But Is Se Coll F - The Creeping Form With A Rootstock - Specimen Seen;

WIJ94101603 ID ! Identification Query: Atlassed As Se Decu With Note: Se Collina Said To Be In This Area By Nature Conservation Officer ( Ie An Summit Ridge) - Is Se Coll;

LYM97101102 NG Some Of The Se Coll Plants Had Red Leaves - Could This Be Stress ?;

AKS92080401 PN Was Formely Present On This 4wd Track Now Obliterated Is This A Case For " Search And Rescue " To Persuade The Owners To Prevent Vechiles Driving Straight Up The Slope? Erosion Is Worst Each Year;

AKS92080403 PN Was Rediscovered Here A Few Years Ago By Prof Jackson;

AKS94072004 PN At Least 10 On This Side Of Rooikrans Are Certainly Sc Collina But Will Check Again At Flowering Time;

AKS94072005 PN 28 Se Collina Counted;

PVR95070507 PN Only One Se Coll F ( Se Decu) Was Found This Time - The Others Killed By The Fire ? - And This Was Looking A Bit Sick Reddish Signs Of Stress Survived By Being In A Rock Cleft;

AGRY3090709 PS Ld Coniferum Ld Salignum Se Collina Mainly In Bottom Half Of Plot;

NAHY4011801 PS This Could Be The Lowest Altitude That Se Coll Reaches In This Population;

PVR94080404 PS The Se Coll Are In A Band At About El 430;

WIJ96122604 PS To S Side Of Track Up The Ridge;

**Confusing Species:** Add.

Records of identification queries = 12  
Records of corrected identification queries = 8 = 0.0%.

, SECOLLC, SEDECU , SEDECU , SEDECU , SEDECU , SECOLL , SECOLLC, SEDECU

**Variation and Taxonomy:** Add.

**Distribution:** Add.

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*Serruria decipiens* R.Br. 1810  
**Sandveld Spiderhead**  
*Kinkelspinnekopbos*

**Other Common Names:**

*Sandveldkromspinnnekopbos,*  
*Weskusspinnnekopbos.*

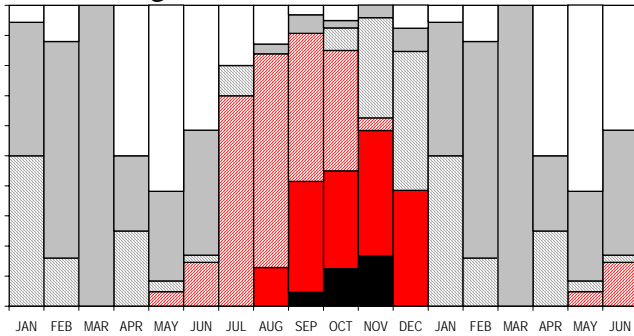
**Other Scientific Names:** *adscendens* var.  
*decipiens* Hutch. 1912, *patula* (Thunb.)  
 1781.

**370 Records**

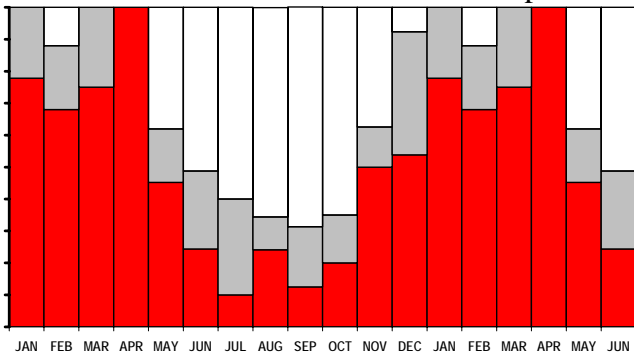
**Population** (366 records): 26% Common,  
 50% Frequent, 24% Rare.

**Dispersion** (314 records): 73% variable,  
 25% clumped, 2% widespread.

**Flowering** (367 records with: Jan 18, Feb 25,  
 Mar 8, Apr 8, May 84, Jun 41, Jul 10, Aug  
 31, Sep 65, Oct 40, Nov 24, Dec 13): Buds  
 from Jul to Oct; Flowering from Sep to Dec;  
 Peak Flowering not significant; Over from  
 Nov to Jan and Apr; Fruit from Jan to Jun;  
 Nothing from Apr to Jul. Peak levels at 96%  
 in Nov. Historically recorded as flowering  
 from Aug to Nov.



**Growth** (364 records with: Jan 18, Feb 25, Mar  
 8, Apr 8, May 84, Jun 41, Jul 10, Aug 29,  
 Sep 64, Oct 40, Nov 24, Dec 13): Much from  
 Oct to Jun and Aug; Rare from Dec to Mar  
 and Jun to Jul; None from May to Nov. Peak  
 levels at 100% from Jan and Feb to Apr.



**Seedlings** (143 records): Absent in 97%: more  
 seedlings than prefire adults in 2 cases.  
 Seedlings found in Aug and Nov.

**Fire Survival** (16 records): 56% survived by  
 seedlings only, 31% eliminated from the area  
 by fires, 6% escaped fires in fire-safe areas,  
 6% resprouted from aerial trunks.

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



**Height** (367 records): 3% 0-0.2 m tall,  
 89% 0.2-1 m tall, 8% 1-2 m tall.

**Pollinators** (6 records): 50% butterflies or  
 moths, 33% flies, 17% beetles.

**Detailed Pollinators** (3 records): Moth  
 (unspecified), Carpenter Bee, African  
 Monarch Butterfly.

**Habitat:**

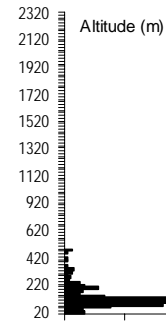
**Distance to Ocean** (365 records): 99% inland -  
 further than 2 km from coast.

**Altitude** (365 records): 20 - 520 m; 60 *lq* - 100  
*med* - 100 *uq*m.

**Landform** (365 records):  
 99% deep soil.

**Slope** (363 records):  
 55% platform, 31% gentle  
 incline, 7% valley bottom,  
 4% dunes, 3% hill top.

**Aspect** (198 records):  
 37% West, 28% South,  
 19% East, 17% North.

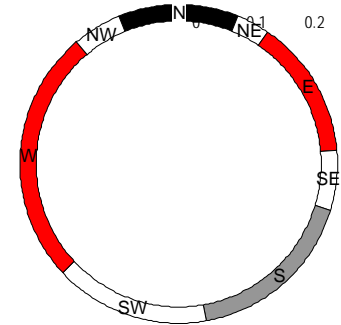


**Soil Type** (364  
 records):  
 97% sandy,  
 2% loamy.

**Soil Colour** (362  
 records):  
 32% white,  
 31% grey,  
 15% brown,  
 12% yellow,  
 7% orange,  
 2% red.

**Geology** (347  
 records): 76% Tertiary sands,  
 23% sandstone, 1% shale.

**Vegetation** (365 records): 99% shrubland.



**Conservation Status and Threat:**

**Red Data List Status:** Vulnerable A2c+4c.

**Occurrence** (Fynbos): 4 216 km<sup>2</sup> with 2%  
 conserved and 40% lost; **Occupancy:**  
 437 km<sup>2</sup> with 7% conserved and 31% lost.  
**Fragmentation index:** 7%.

**Nature Reserves** (365 records): 13% in nature  
 reserves - inadequately conserved.

**Habitat destruction** (362 records):  
 69% extensive natural habitat, 16% islands,  
 10% road verges, 2% naturally linear  
 habitats, 2% naturally fragmented habitats.

**Alien Invasive Species** (359 records):

89% Fabaceae (chiefly alien *Acacia*),  
9% none, 1% *Pinus*.

**Alien Density** (359 records): 9% alien-free,  
42% sparse, 28% abundant, 18% dense,  
3% impenetrable.

**Cultivation & Utilization:**

**Picking** (305 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Were all in bud and flowering when they should  
have been in cone in Dec! Dry autumn and  
wet spring? (SMR98120213);

A very high number of small plants  
(AGR91121206); Young plants present  
(AGR92012201);

Much cattle damage (APE93060507); Partly  
eaten - by cattle probably (CHE98052007);

Many plants dead (AGR91092901); Also 2  
dead plants (SMRY0020901);

Regenerating well in cleared *A. cyclops* and  
disturbed areas (AGR92012310);

In drainage lines, same area with heaviest  
*Acacia* infestations! (AGR92072202);

**Confusing Species:** Confused with *S.*  
*"piketbergensis"* (45% of cases, which is a  
resprouter, but was not identified as separate  
until well into the project), *S. fucifolia* (27%,  
which has capitula), *S. fasciflora* (with  
straight styles) and *S. glomerata* (which is  
confined to the Peninsula).

Records of identification queries = 14.

Records of corrected identification queries = 11.

**Variation and Taxonomy:** No variation noted,  
but as flowerhead size is indeterminate, these  
vary from small in bad years and weak  
plants, to exceptionally huge under ideal  
conditions, to the extent that nearby plants  
look quite different.

**Distribution:** Add.

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*Serruria glomerata* (L.) R.Br. 1762, 1810  
Cluster Spiderhead

**Other Common Names:** Samphire-leaf  
Serruria.

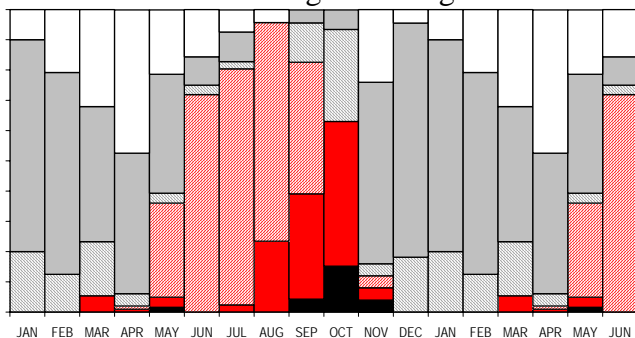
**Other Scientific Names:** *foeniculacea* Sieber ex Meisn 1856, *sphaerocephala* (Thunb) 1818.

**529 Records**

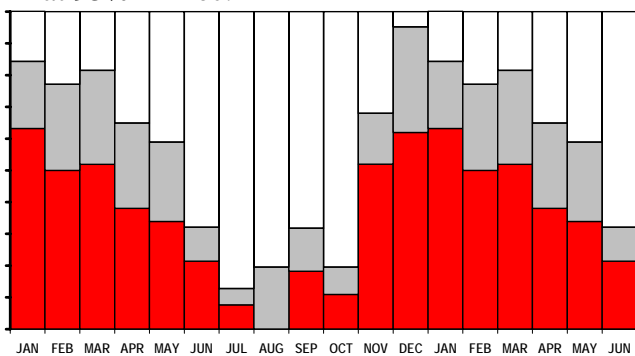
**Population** (524 records): 2% Abundant, 39% Common, 52% Frequent, 7% Rare.

**Dispersion** (510 records): 67% variable, 26% clumped, 6% widespread, 1% evenly distributed.

**Flowering** (518 records with: Jan 20, Feb 48, Mar 56, Apr 97, May 61, Jun 32, Jul 41, Aug 47, Sep 23, Oct 46, Nov 25, Dec 22): Buds from May to Sep; Flowering from Aug to Oct; Peak Flowering not significant; Over from Jan and Oct; Fruit from Nov to May; Nothing from Feb to May and Nov. Peak levels at 96% in Aug to Sep. Historically recorded as flowering from Aug to Oct.



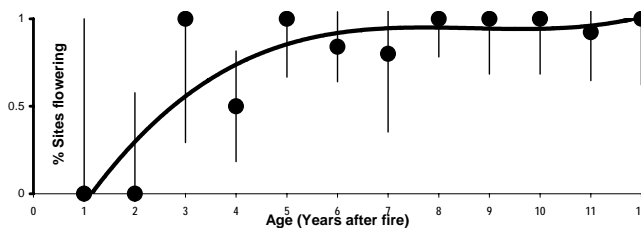
**Growth** (501 records with: Jan 19, Feb 48, Mar 54, Apr 97, May 56, Jun 28, Jul 39, Aug 46, Sep 22, Oct 46, Nov 25, Dec 21): Much from Nov to Jun; Rare from Dec to May and Aug; None from Feb and Apr to Nov. Peak levels at 95% in Dec.



**Seedlings** (168 records): Absent in 70%: fewer seedlings than prefire adults in 19 cases, and more in 6 cases. Seedlings found in Feb (4), Mar (4), May, Jul (2), Aug (9), Sep (2) and Oct (3).

**Fire Survival** (37 records): 97% survived by seedlings only, 3% eliminated from the area by fires.

**Age to first flowering:** First flowers recorded at 1 year, 50% estimated at 2-4 years, and 100% recorded at 3 years.



**Height** (523 records): 10% 0-0.2 m tall, 89% 0.2-1 m tall, 1% 1-2 m tall.

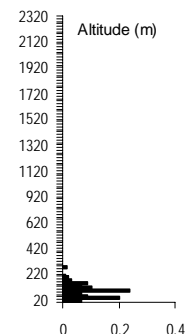
**Pollinators** (4 records): 50% bees or wasps, 50% beetles.

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

**Habitat:**

**Distance to Ocean** (500 records): 54% coastal - less than 2 km from coast.

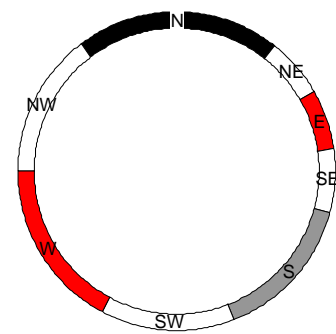
**Altitude** (500 records): 20 - 300 m; 20 *lq* - 60 *med* - 100 *ug*m.



**Landform** (494 records): 86% deep soil, 6% swamp, 5% shallow soil, 3% rocky outcrops.

**Slope** (484 records): 45% platform, 38% gentle incline, 12% valley bottom, 3% steep incline, 1% hill top.

**Aspect** (279 records): 32% West, 31% North, 25% South, 12% East.



**Soil Type** (498 records): 87% sandy, 9% loamy, 3% peaty.

**Soil Colour** (498 records): 63% grey, 17% white, 11% brown, 8% black.

**Geology** (488 records): 93% sandstone, 5% Tertiary sands, 1% granite, 1% silcrete or ferricrete.

**Vegetation** (497 records): 96% shrubland, 2% plantations, 2% grassland.

**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 261 km<sup>2</sup> with 57% conserved and 34% lost; **Occupancy:** 145 km<sup>2</sup> with 65% conserved and 22% lost. **Fragmentation index:** 39%.

**Nature Reserves** (500 records): 91% in nature reserves - well conserved.

**Habitat destruction** (490 records): 90% extensive natural habitat, 5% islands, 4% naturally linear habitats.

**Alien Invasive Species** (472 records):

52% none, 40% Fabaceae (chiefly alien *Acacia*), 5% *Pinus*, 2% Myrtaceae.

**Alien Density** (472 records): 52% alien-free, 40% sparse, 6% abundant, 1% dense.

**Cultivation & Utilization:**

**Picking** (368 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

From time to time poisoned by local authorities (CVV95091301);

Lots (20%) dead (AGRY0061101); 1 Dying off (GED99103001); 3 bushes dead (GED99110102); Only one dead plant found (MLOY0020801);

Occurs only in swampy areas here (AGR92050907); A bit out of place along the dry slope; appears to be confined to disturbed area road (CVV99013101); On

inside of vlel (CVVY1010207); At lower end of plot towards valley bottom (PMR99031101); Especially in wetter areas which the others avoid (TLE94061202); On flats near beach (LYM99040601); *S. glomerata* and *villosa* have quite distinct local distributions (PGD94021102);

**Confusing Species:** Rarely confused, mostly with *S. fasciflora* (with straight styles) and *S. villosa* (with neater leaves and single head). Records of identification queries = 7. Records of corrected identification queries = 5.

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

**Distribution:** Add.

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*Serruria nervosa* Meisn. 1856  
**Fluted Spiderhead**

**Other Common Names:** Curly Spiderhead, *Spinnekopbossie*.

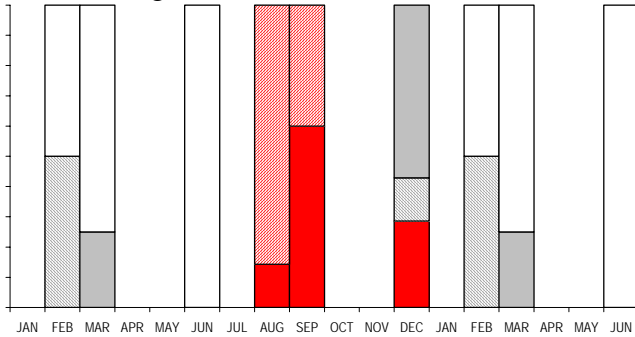
**Other Scientific Names:** *ventricosa* Phill & Hutch 1912.

**53 Records**

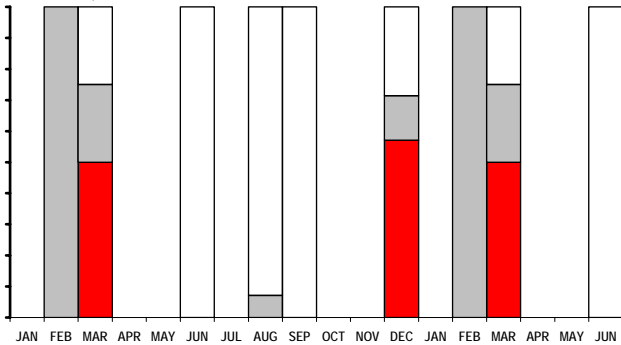
**Population** (52 records): 4% Abundant, 42% Common, 52% Frequent, 2% Rare.

**Dispersion** (42 records): 90% variable, 7% clumped, 2% widespread.

**Flowering** (43 records with: Jan 0, Feb 2, Mar 4, Apr 0, May 0, Jun 4, Jul 0, Aug 14, Sep 5, Oct 0, Nov 0, Dec 14): Buds from Aug to Sep; Flowering from Sep to Dec; Peak Flowering not recorded; Over from Feb; Fruit from Mar and Dec; Nothing from Feb to Jun. Peak levels unreliable at 100% from Aug to Sep. Historically recorded as flowering from Jul to Nov.



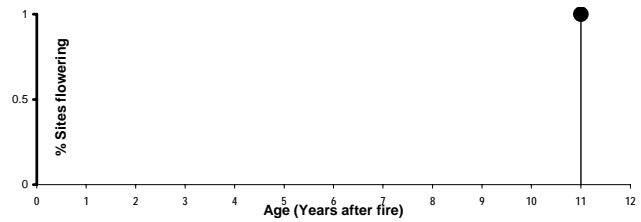
**Growth** (43 records with: Jan 0, Feb 2, Mar 4, Apr 0, May 0, Jun 4, Jul 0, Aug 14, Sep 5, Oct 0, Nov 0, Dec 14): Much from Mar and Dec; Rare from Feb to Mar; None from Mar to Dec. Peak levels unreliable at 100% in Feb,



**Seedlings** (8 records): All without any seedlings present.

**Fire Survival** : No data.

**Age to first flowering:** First flowers recorded at 11 years – no data from younger veld.



**Height** (43 records): 12% 0-0.2 m tall, 88% 0.2-1 m tall.

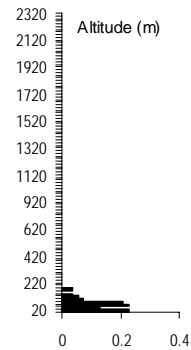
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (53 records): 98% inland - further than 2 km from coast.

**Altitude** (53 records): 20 - 180 m; 20 *lq* - 60 *med* - 60 *uq*m.



**Landform** (44 records):

100% deep soil.

**Slope** (44 records):

52% platform, 36% gentle incline, 9% valley bottom, 2% hill top.

**Aspect** (24 records):

50% West, 29% South, 19% North, 2% East.

**Soil Type** (44 records):

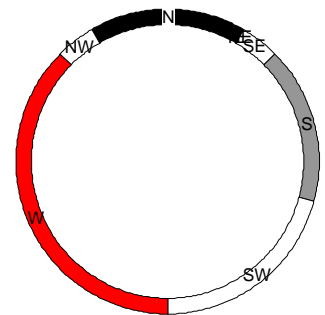
80% sandy, 18% loamy, 2% peaty.

**Soil Colour** (44 records): 52% grey, 43% white, 2% black, 2% brown.

**Geology** (51 records):

45% Tertiary sands, 27% limestone, 22% sandstone, 4% shale, 2% silcrete or ferricrete.

**Vegetation** (53 records): 100% shrubland.



**Conservation Status and Threat:**

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

Occurrence (Fynbos): 73 km<sup>2</sup> with 11% conserved and 18% lost; Occupancy: 45 km<sup>2</sup> with 13% conserved and 16% lost. Fragmentation index: 59%.

**Nature Reserves** (53 records): 21% in nature reserves.

**Habitat destruction** (42 records): 98% extensive natural habitat, 2% corridors.

**Alien Invasive Species** (43 records):

74% Fabaceae (chiefly alien *Acacia*), 16% none, 7% Myrtaceae, 2% *Pinus*.

**Alien Density** (43 records): 16% alien-free, 58% sparse, 19% abundant, 7% dense.

**Cultivation & Utilization:**

**Picking** (32 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:** None.

**Confusing Species:** Considered synonymous with *S. bolusii* until late in the atlas project, when atlassers pointed out the differences. Records of identification queries = 53.

**Variation and Taxonomy:** Considered synonymous to *S. bolusii*, but differs in being more erect and having reduced the number of

headlets per flowerhead to one (occ. up to three). The tepal hairs are also usually spreading, rather than flat against the perianth as in *S. bolusii*. Both however, have the strongly fluted floral bracts.

**Distribution:** Add.

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*Serruria "piketbergensis"* (nomen nudum)  
**Piketberg Spiderhead**

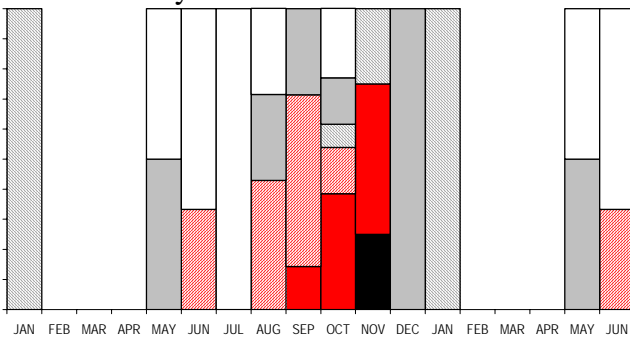
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**44 Records**

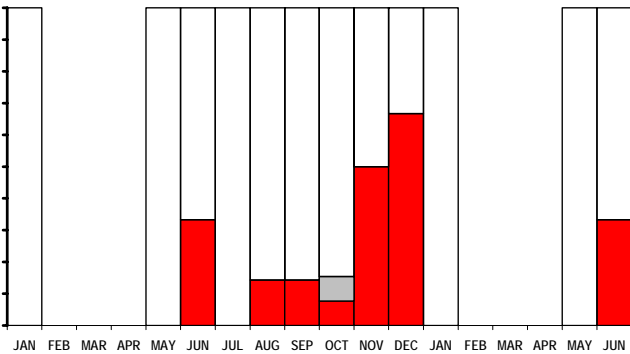
**Population** (43 records): 16% Common, 60% Frequent, 23% Rare.

**Dispersion** (36 records): 64% variable, 33% clumped, 3% evenly distributed.

**Flowering** (43 records with: Jan 3, Feb 0, Mar 0, Apr 0, May 2, Jun 3, Jul 1, Aug 7, Sep 7, Oct 13, Nov 4, Dec 3): Buds from Jun to Sep; Flowering from Oct to Nov; Peak Flowering from Nov; Over from Nov and Jan; Fruit from May and Aug to Sep and Dec; Nothing from May to Aug and Oct. Peak levels unreliable at 100% in Nov. Historically not recorded.



**Growth** (43 records with: Jan 3, Feb 0, Mar 0, Apr 0, May 2, Jun 3, Jul 1, Aug 7, Sep 7, Oct 13, Nov 4, Dec 3): Much from Jun and Nov to Dec; Rare not significant; None from all year round. Peak levels unreliable at 67% in Dec.



**Seedlings** (22 records): All without any seedlings present.

**Fire Survival** (8 records): 100% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 2 years, 50% estimated at 3 years, and 100% consistently recorded at 6 years.



**Height** (43 records): 30% 0-0.2 m tall, 70% 0.2-1 m tall.

**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

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

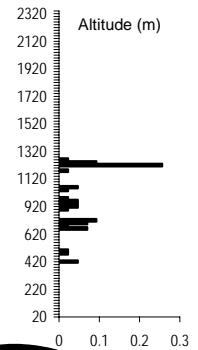
**Altitude** (43 records): 400 - 1160 m; 680 *lq* - 840 *med* - 1120 *uq*m.

**Landform** (43 records):

88% deep soil, 5% swamp, 5% shallow soil, 2% rocky outcrops.

**Slope** (41 records): 54% gentle incline, 32% platform, 5% steep incline, 5% hill top, 5% valley bottom.

**Aspect** (35 records): 43% South, 23% North, 23% East, 11% West.

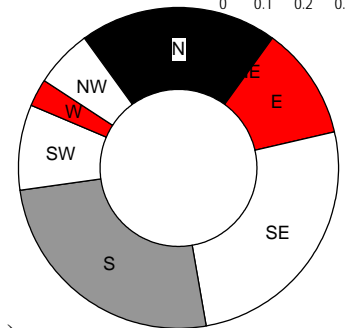


**Soil Type** (43 records): 72% sandy, 23% loamy, 5% peaty.

**Soil Colour** (43 records): 51% grey, 30% brown, 14% white, 5% black.

**Geology** (41 records): 95% sandstone, 5% shale.

**Vegetation** (43 records): 100% shrubland.



**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened D2(i). Occurrence (Fynbos): 316 km<sup>2</sup> with 17% conserved and 13% lost; Occupancy: 43 km<sup>2</sup> with 32% conserved and 5% lost. Fragmentation index: 6%.

**Nature Reserves** (43 records): 63% in nature reserves - well conserved.

**Habitat destruction** (43 records): 88% extensive natural habitat, 9% islands, 2% naturally fragmented habitats.

**Alien Invasive Species** (42 records): 74% none, 21% *Pinus*, 2% Fabaceae (chiefly alien *Acacia*), 2% Myrtaceae.

**Alien Density** (42 records): 74% alien-free, 21% sparse, 5% abundant.

**Cultivation & Utilization:**

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



**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

One plant had a complete trailing stem stripped of its leaves by what is believed to be a rodent (NGF96050102);

**Confusing Species:** This is the only resprouting Curly Spiderhead on the west coast, and its range is quite disjunct from *S. rubricaulis*, from which it can be told by its black bracts and more erect habit. Records of identification queries = 7.

**Variation and Taxonomy:** No variation noted. This is clearly related to *S. decipiens*, but is a resprouter with brown-black involucre bracts. Superficially it resembles *S. rubricaulis*, but it is a more erect plant with distinctive bracts.

**Distribution:** Add.

INCLUDEPICTURE

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## *Serruria roxburghii* R.Br. 1810 Short-leaf Spiderhead

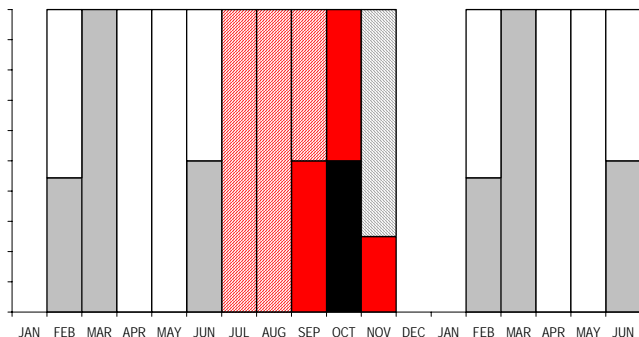
**Other Common Names:** None known.  
**Other Scientific Names:** *triternata* Thib ex Meisn. 1856.

### 41 Records

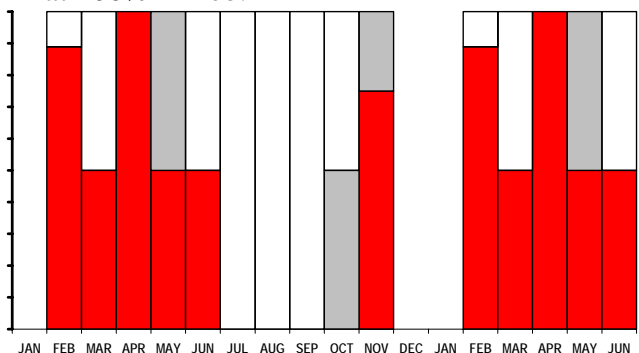
**Population** (40 records): 33% Common, 48% Frequent, 18% Rare, 3% Extinct.

**Dispersion** (38 records): 68% variable, 29% clumped, 3% evenly distributed.

**Flowering** (40 records with: Jan 0, Feb 9, Mar 2, Apr 1, May 2, Jun 2, Jul 8, Aug 4, Sep 2, Oct 2, Nov 8, Dec 0): Buds from Jul to Sep; Flowering from Sep to Nov; Peak Flowering from Oct; Over from Nov; Fruit from Feb to Mar and Jun; Nothing from Feb and Apr to Jun. Peak levels at unreliable at 100% in Oct. Historically recorded as flowering from Sep to Nov.



**Growth** (40 records with: Jan 0, Feb 9, Mar 2, Apr 1, May 2, Jun 2, Jul 8, Aug 4, Sep 2, Oct 2, Nov 8, Dec 0): Much from Nov to Jun; Rare from May and Oct to Nov; None from Mar and Jun to Oct. Peak levels at unreliable at 100% in Feb.



**Seedlings** (19 records): Absent in 89%; fewer seedlings than prefire adults in 1 case. Seedlings found in Sep.

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

**Age to first flowering:** First flowers recorded at 100% at 3 years.



**Height** (40 records): 3% 0-0.2 m tall, 88% 0.2-1 m tall, 10% 1-2 m tall.

**Pollinators** (4 records): 50% butterflies or moths, 50% beetles.

**Detailed Pollinators** (3 records): Painted Lady Butterfly, Monkey Beetle, Blues Butterfly.

### Habitat:

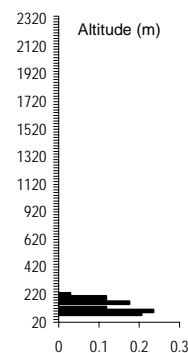
**Distance to Ocean** (34 records): 100% inland - further than 2 km from coast.

**Altitude** (34 records): 60 - 220 m; 80<sub>lq</sub> - 100<sub>med</sub> - 100<sub>uq</sub>m.

**Landform** (34 records): 100% deep soil.

**Slope** (34 records): 74% platform, 18% gentle incline, 9% valley bottom.

**Aspect** (13 records): 73% West, 15% North, 8% East, 4% South.

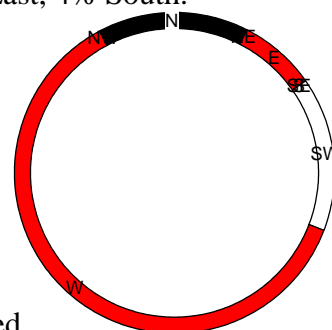


**Soil Type** (34 records): 91% sandy, 9% loamy.

**Soil Colour** (34 records): 32% brown, 24% yellow, 15% grey, 15% orange, 12% white, 3% red.

**Geology** (33 records): 73% Tertiary sands, 12% sandstone, 12% shale, 3% granite.

**Vegetation** (34 records): 100% shrubland.



### Conservation Status and Threat:

**Red Data List Status:** Endangered A2c, B1a(i)b(i,ii,iii,iv,v) + 2a(i)b(i,ii,iii,iv,v).

**Occurrence (Fynbos):** 41 km<sup>2</sup> with 0% conserved and 57% lost; **Occupancy:** 29 km<sup>2</sup> with 0% conserved and 75% lost. **Fragmentation index:** 11%.

**Nature Reserves** (34 records): 0% in nature reserves - unconserved.

**Habitat destruction** (33 records): 48% extensive natural habitat, 42% islands, 3% road verges, 3% naturally linear habitats, 3% naturally fragmented habitats.

**Alien Invasive Species** (34 records): 82% Fabaceae (chiefly alien *Acacia*), 9% *Pinus*, 6% none, 3% annual alien grasses.

**Alien Density** (34 records): 6% alien-free, 21% sparse, 41% abundant, 32% dense.

**Cultivation & Utilization:**

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

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Interfire recruitment (LYM97112602); Many young plants - interfire recruitment (SMR97112602);

Half Of Plants Dead - Mainly In Denser Stands Of Aliens 100-150 Live Seen (AGRY0072701); 50% dead (VCH98051401);

**Population size:**

About 800 plants(SMR97112602, SMRY0072702); About 600 plants (AGRY0072703, AGRY0072706, LYM97112602, SMR97112601); About 400 plants (SMRY0072703); About 20

plants(SMRY0072705); About 15 plants (AGRY0072710); Despite a good search none found - area badly waterlogged - aliens need to be cleared (AGRY1091301);

**Confusing Species:** None noted, although *S. glomerata* could be easily confused it is geographically separate.

Records of identification queries = 1.

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

**Distribution:** Add.

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*Serruria rubricaulis* R.Br. 1810  
Red-stem Spiderhead

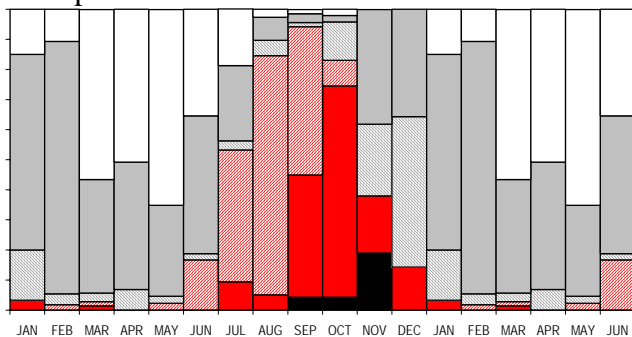
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**578 Records**

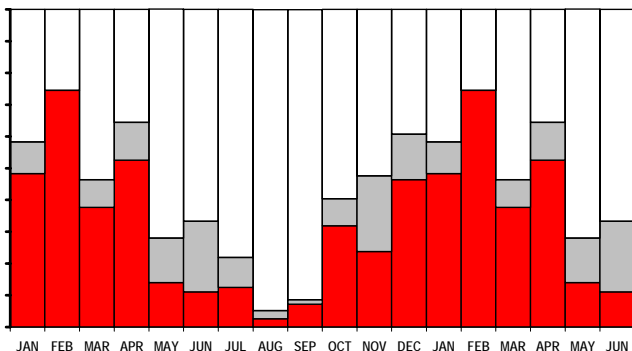
**Population** (574 records): 28% Common, 53% Frequent, 18% Rare.

**Dispersion** (524 records): 70% variable, 25% clumped, 4% widespread, 1% evenly distributed.

**Flowering** (571 records with: Jan 60, Feb 56, Mar 69, Apr 59, May 43, Jun 48, Jul 32, Aug 39, Sep 69, Oct 47, Nov 21, Dec 28): Buds from Jul to Sep; Flowering from Sep to Oct; Peak Flowering from Nov; Over from Nov to Dec; Fruit from Nov to Jul; Nothing from Mar to Jun. Peak levels at 95% from Sep to Oct. Historically recorded as flowering from Sep to Oct.



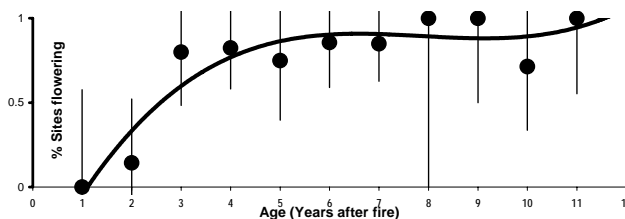
**Growth** (566 records with: Jan 60, Feb 55, Mar 69, Apr 59, May 43, Jun 45, Jul 32, Aug 38, Sep 69, Oct 47, Nov 21, Dec 28): Much from Oct to Apr; Rare from Jun and Nov; None from all year round. Peak levels at 75% in Feb.



**Seedlings** (249 records): Absent in 93%; fewer seedlings than prefire adults in 6 cases, and more in 3 cases. Seedlings found in Jan (3), Feb (3), Apr (2) and Sep.

**Fire Survival** (57 records): 98% resprouted from underground boles, 2% survived by seedlings only.

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



**Height** (571 records): 33% 0-0.2 m tall, 66% 0.2-1 m tall.

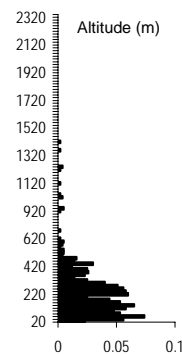
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (568 records): 67% inland - further than 2 km from coast.

**Altitude** (568 records): 20 - 1320 m; 80 *l<sub>q</sub>* - 180 *med* - 260 *uq<sub>m</sub>*.



**Landform** (565 records): 90% deep soil, 5% shallow soil, 3% rocky outcrops, 1% swamp.

**Slope** (564 records): 64% gentle incline, 20% steep incline, 9% platform, 5% hill top, 2% valley bottom.

**Aspect** (503 records): 42% South, 22% East, 19% North, 16% West.

**Soil Type** (563 records):

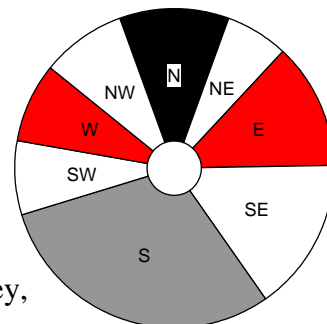
73% sandy, 17% loamy, 6% gravelly, 2% clayey, 2% rocky, 1% peaty.

**Soil Colour** (562 records):

73% grey, 11% brown, 8% white, 3% black, 2% yellow, 2% orange.

**Geology** (540 records): 89% sandstone, 6% shale, 3% Tertiary sands.

**Vegetation** (564 records): 99% shrubland.



**Conservation Status and Threat:**

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

Occurrence (Fynbos): 1 762 km<sup>2</sup> with 27% conserved and 32% lost; Occupancy: 465 km<sup>2</sup> with 27% conserved and 24% lost. Fragmentation index: 17%.

**Nature Reserves** (568 records): 35% in nature reserves.

**Habitat destruction** (558 records): 92% extensive natural habitat, 4% islands, 1% naturally linear habitats.

**Alien Invasive Species** (555 records): 36% *Pinus*, 25% none, 23% Fabaceae (chiefly alien *Acacia*), 10% *Hakea*, 6% Myrtaceae.

**Alien Density** (555 records): 25% alien-free, 54% sparse, 14% abundant, 6% dense, 1% impenetrable.

**Cultivation & Utilization:**

**Picking** (404 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

On drier areas of vleis site (MAJ97091401);

**Confusing Species:** *S. adscendens* (55% of cases, with a single stem: although usually white stemmed, red stems are not a consistent diagnostic feature for *S. rubricaulis*), occasionally with *S. elongata* (much more robust leaves, not resprouting), *S. fasciflora* (straight styles, not resprouting), *S. ludwigii* (a resprouter with capitula), and

rarely with *S. nervosa* (not resprouting), *S. gremialis* (a resprouter with capitula) and *S. meisneriana* (with long-stalked flowerheads, not resprouting).

Records of identification queries = 43.

Records of corrected identification queries = 20.

**Variation and Taxonomy:** No variation known, other than eastern populations tend to have fluted floral bracts. In Flora Capensis this was incorrectly sunk into *S. adscendens*.

**Distribution:** Add.

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*Serruria triternata* (Thunb.) R.Br. 1781, 1810  
**Tulbagh Spiderhead**

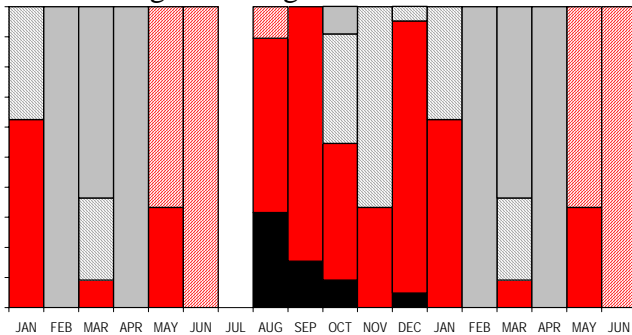
**Other Common Names:** Dill-leaf Serruria.  
**Other Scientific Names:** *anethifolia* Salisb. ex Knight 1809, *argentiflora* (Andr) 1803, *glomerata* (Willd.) 1809, *tridentata* Dietr. 1839.

**111 Records**

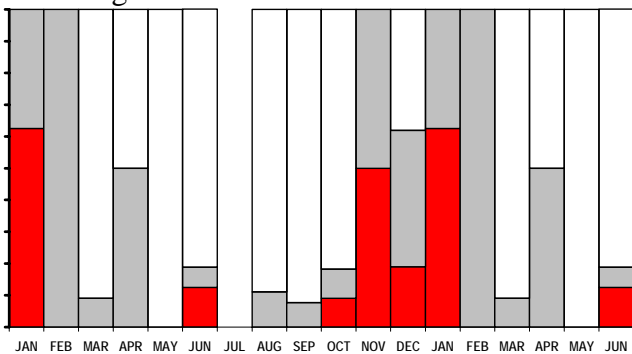
**Population** (111 records): 37% Common, 51% Frequent, 12% Rare.

**Dispersion** (105 records): 50% clumped, 46% variable, 3% widespread.

**Flowering** (111 records with: Jan 8, Feb 1, Mar 11, Apr 2, May 3, Jun 16, Jul 0, Aug 19, Sep 13, Oct 11, Nov 6, Dec 21): Buds from May to Jun; Flowering from Aug to Jan; Peak Flowering from Aug; Over from Jan, Mar and Oct to Nov; Fruit from Feb to Apr; Nothing not recorded. Peak levels at 100% from Aug to Sep. Historically recorded as flowering from Aug to Oct.



**Growth** (110 records with: Jan 8, Feb 1, Mar 11, Apr 2, May 3, Jun 16, Jul 0, Aug 18, Sep 13, Oct 11, Nov 6, Dec 21): Much from Nov and Jan; Rare from Mar to Oct and Apr; None from Mar to Oct and Dec. Peak levels at 100% from Nov, and Jan to Feb, but with most growth in Jan.



**Seedlings** (47 records): All without any seedlings present.

**Fire Survival** (8 records): 88% survived by seedlings only, 13% eliminated from the area by fires.

**Age to first flowering:** First flowers recorded at 100% at 1 year.



**Height** (111 records): 83% 0.2-1 m tall, 17% 1-2 m tall.

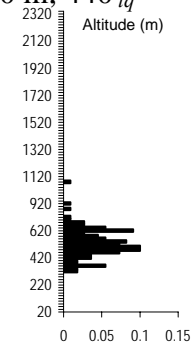
**Pollinators** (6 records): 83% beetles, 17% butterflies or moths.

**Detailed Pollinators** (4 records): Monkey Beetle (2), Moth (unspecified), Great Protea Beetle.

**Habitat:**

**Distance to Ocean** (110 records): 100% inland - further than 2 km from coast.

**Altitude** (110 records): 300 - 980 m; 440 *lq* - 500 *med* - 540 *uq*m.



**Landform** (110 records): 82% deep soil, 16% shallow soil.

**Slope** (110 records): 61% gentle incline, 15% steep incline, 15% platform, 6% hill top, 4% valley bottom.

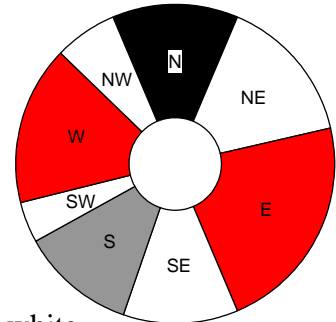
**Aspect** (94 records): 37% East, 21% North, 21% West, 20% South.

**Soil Type** (110 records): 63% sandy, 22% gravelly, 5% loamy, 5% rocky, 4% clayey.

**Soil Colour** (108 records): 57% grey, 20% brown, 16% white, 3% orange, 2% yellow.

**Geology** (109 records): 84% sandstone, 8% shale, 6% silcrete or ferricrete, 2% Tertiary sands.

**Vegetation** (110 records): 98% shrubland, 2% plantations.



**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened D2(i). Occurrence (Fynbos): 107 km<sup>2</sup> with 51% conserved and 8% lost; Occupancy: 77 km<sup>2</sup> with 41% conserved and 12% lost. Fragmentation index: 67%.

**Nature Reserves** (110 records): 68% in nature reserves - well conserved.

**Habitat destruction** (110 records): 97% extensive natural habitat, 2% road verges.

**Alien Invasive Species** (109 records):  
50% *Pinus*, 27% *Hakea*, 20% none,  
3% Fabaceae (chiefly alien *Acacia*).  
**Alien Density** (109 records): 20% alien-free,  
69% sparse, 7% abundant, 4% dense.

**Cultivation & Utilization:**

**Picking** (82 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

1 bush apparently resprouting!  
(AGR96121102); One plant appeared to be  
resprouting (SMR96121106);  
About 50 plants in ca 25 m diameter patch  
adjacent to footprint of hut burnt out 3 - 5  
years ago! (SHR98082301); About 150 plants  
- half young (VCH98122701); New colony -

just 20 plants (VCH99010102); Jackpot ! a  
couple of thousand plants (VCH99010104);  
70% dead or dying very dry (VCH99040402);  
*Otomus* damage seen (NGF96081005);  
Clay outcrop - plants limited to outcrop and  
wash off area about 50 m<sup>2</sup> (VCH98122701);  
Pollinator: Protea Beetle - small brown  
*Tricostetha* (AGRY4092401);

**Confusing Species:** None.

Records of identification queries = 3.

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

**Distribution:** Add.

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## *Serruria altiscapa* Rourke 1994 Stately Spiderhead

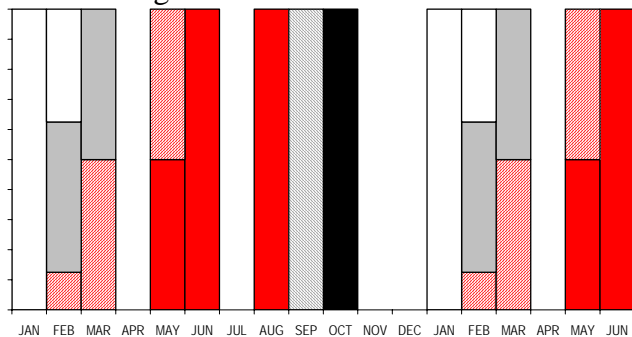
**Other Common Names:** None known.  
**Other Scientific Names:** *amoena* nomen nudum - in Tansley, *nubicephala* nomen nudum (Protea Atlas).

### 22 Records

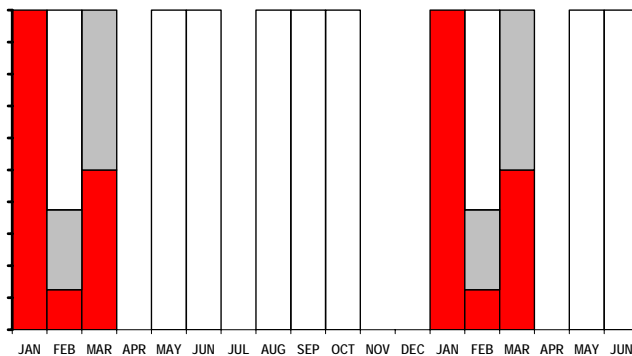
**Population** (22 records): 18% Common, 50% Frequent, 32% Rare.

**Dispersion** (17 records): 76% clumped, 24% variable.

**Flowering** (22 records with: Jan 2, Feb 8, Mar 2, Apr 0, May 2, Jun 1, Jul 0, Aug 5, Sep 1, Oct 1, Nov 0, Dec 0): Buds from Mar to May; Flowering from May to Aug; Peak Flowering from Oct; Over from Sep; Fruit from Feb to Mar; Nothing from Jan to Feb. Peak levels unreliable at 100% from Jun to Aug. Historically recorded as flowering from Aug to Oct.



**Growth** (22 records with: Jan 2, Feb 8, Mar 2, Apr 0, May 2, Jun 1, Jul 0, Aug 5, Sep 1, Oct 1, Nov 0, Dec 0): Much from Jan and Mar; Rare from Feb to Mar; None from Feb and May to Oct. Peak levels unreliable at 100% in Jan.



**Seedlings** (14 records): All without any seedlings present.

**Fire Survival** (2 records): 100% survived by seedlings only.

**Age to first flowering:** First flowers recorded at 6 years, no data from younger veld.



**Height** (22 records): 50% 0.2-1 m tall, 50% 1-2 m tall.

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

**Detailed Pollinators:** No additional data.

### Habitat:

**Distance to Ocean** (22 records): 100% inland - further than 2 km from coast.

**Altitude** (22 records): 680 - 1220 m; 760<sub>lq</sub> - 920<sub>med</sub> - 1020<sub>uq</sub> m.

**Landform** (22 records): 59% deep soil, 41% shallow soil.

**Slope** (22 records): 64% steep incline, 36% gentle incline.

**Aspect** (22 records):

52% East, 48% South.

**Soil Type** (22 records):

64% sandy, 14% gravelly, 9% loamy, 9% rocky, 5% clayey.

**Soil Colour** (22 records):

68% grey, 23% black, 5% brown, 5% white.

**Geology** (21 records): 90% sandstone, 10% shale.

**Vegetation** (22 records): 100% shrubland.

### Conservation Status and Threat:

**Red Data List Status:** Endangered

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

Occurrence (Fynbos): 77 km<sup>2</sup> with 78% conserved and 14% lost; Occupancy: 20 km<sup>2</sup> with 94% conserved and 4% lost.

Fragmentation index: 25%.

**Nature Reserves** (22 records): 86% in nature reserves - well conserved.

**Habitat destruction** (22 records):

100% extensive natural habitat.

**Alien Invasive Species** (22 records):

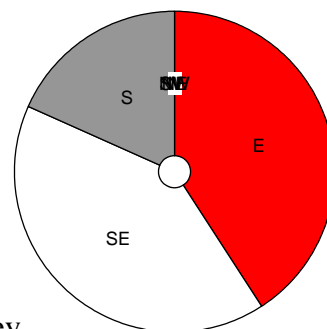
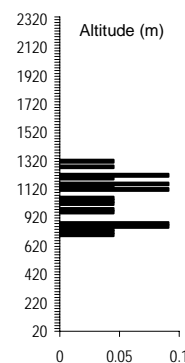
91% *Pinus*, 9% none.

**Alien Density** (22 records): 9% alien-free, 55% sparse, 32% abundant, 5% dense.

### Cultivation & Utilization:

**Picking** (18 records): 94% no sign of picking, 6% lightly picked.

**Cultivation Status:** No noted cultivation.





**Atlassers Notes:**

Flower stalks reach head height amongst the pines (SHR94092501);

50% of plants "In Bud" and 50% with fruit "In Cone" (MAJ93032803);

Inflorescences chopped off by *Otomys*? (or some other large rodent!) - some sitting on rosette of leaves to chew based on droppings - a few heads gnawed (AGR96060305);

Picking of flowers evident: possibly in the name of science or even conservation! (MAJ93032803);

About 25 plants seen in this population (NAH97022304);

In locally deeper soils on platform (ASP93082207);

**Confusing Species:** None noted.  
Records of identification queries = 5.

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

**Distribution:** Add.

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## *Serruria confragosa* Rourke 1982 Wavy Spiderhead

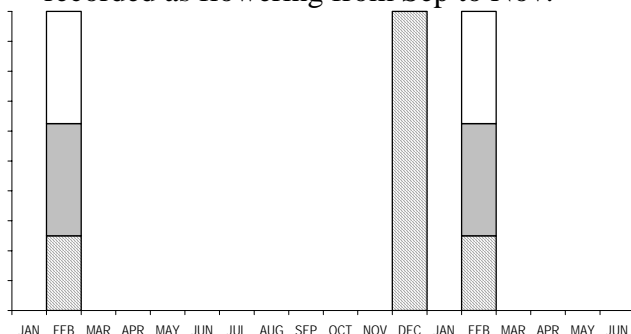
**Other Common Names:** None known.  
**Other Scientific Names:** None.

### 9 Records

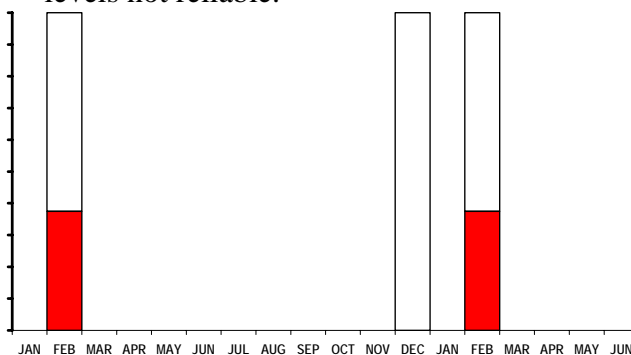
**Population** (9 records): 56% Common, 22% Frequent, 22% Rare.

**Dispersion** (9 records): 56% clumped, 22% evenly distributed, 22% variable.

**Flowering** (9 records with: Jan 0, Feb 8, Mar 0, Apr 0, May 0, Jun 0, Jul 0, Aug 0, Sep 0, Oct 0, Nov 0, Dec 1): Buds, Flowering and Peak Flowering not recorded; Over from Dec to Feb; Fruit from Feb; Nothing from Feb. Peak levels not recorded. Historically recorded as flowering from Sep to Nov.



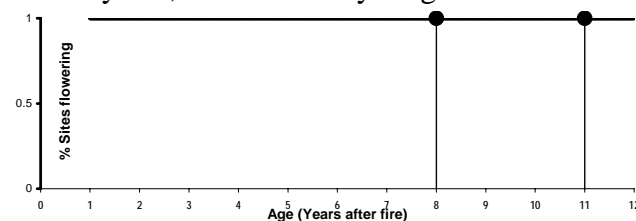
**Growth** (9 records with: Jan 0, Feb 8, Mar 0, Apr 0, May 0, Jun 0, Jul 0, Aug 0, Sep 0, Oct 0, Nov 0, Dec 1): Much from Feb; Rare not recorded; None from Dec to Feb. Peak levels not reliable.



**Seedlings** (2 records): All without any seedlings present.

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

**Age to first flowering:** First flowers recorded at 8 years, no data from younger veld.



**Height** (9 records): 22% 0-0.2 m tall, 44% 0.2-1 m tall, 33% 1-2 m tall.

**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

### Habitat:

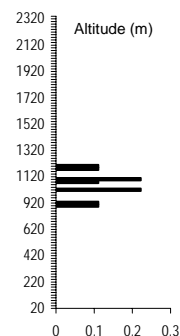
**Distance to Ocean** (9 records): 100% inland - further than 2 km from coast.

**Altitude** (9 records): 780 - 1100 m; 900<sub>lq</sub> - 920<sub>med</sub> - 920<sub>uq</sub>m.

**Landform** (9 records): 67% deep soil, 33% shallow soil.

**Slope** (9 records): 56% steep incline, 22% gentle incline, 22% hill top.

**Aspect** (7 records): 50% East, 21% South, 21% West, 7% North.



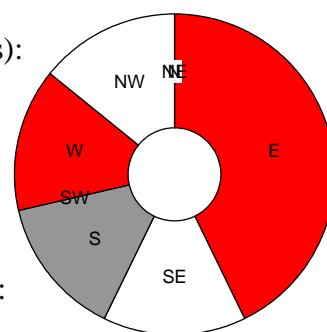
**Soil Type** (9 records):

44% loamy, 33% sandy, 22% gravelly.

**Soil Colour** (9 records): 44% brown, 33% grey, 22% yellow.

**Geology** (9 records): 67% shale, 33% sandstone.

**Vegetation** (9 records): 100% shrubland.



### Conservation Status and Threat:

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

**Occurrence** (Fynbos): 11 km<sup>2</sup> with 57% conserved and 0% lost; **Occupancy:** 12 km<sup>2</sup> with 34% conserved and 2% lost. **Fragmentation index:** 92%.

**Nature Reserves** (9 records): 78% in nature reserves - well conserved.

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

**Alien Invasive Species** (8 records): 100% none. **Alien Density** (8 records): 100% alien-free.

### Cultivation & Utilization:

**Picking** (6 records): 100% no sign of picking. **Cultivation Status:** No noted cultivation.

### Atlassers Notes:

Looks like it has a bole - branching right at ground level - possibly a resprouter? (AGRY1021416);

About 140 plants (AGRY1021416); Adjacent to but not in the seep (JBB99122102);

**Confusing Species:** None noted.

Records of identification queries = 2.

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

**Distribution:** Add.

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*Serruria elongata* (Bergius) R.Br. 1766, 1810  
**Long-stalk Spiderhead**

**Other Common Names:** Stalked Spiderhead, *Spinnekopbos*.

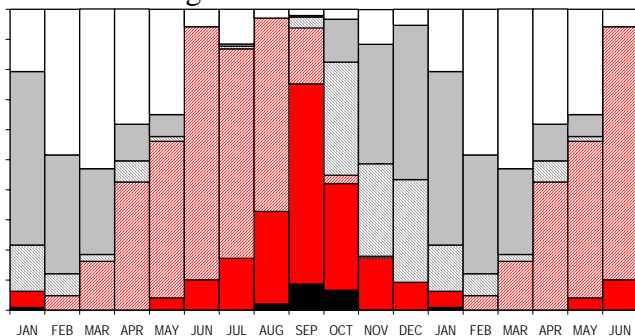
**Other Scientific Names:** *crithmifolia* Salisb. ex Knight 1809, *glomerata* (Thunb) 1781, *helvola* (Willd.) 1809, *thyrsoides* (Lam.) 1791.

**1658 Records**

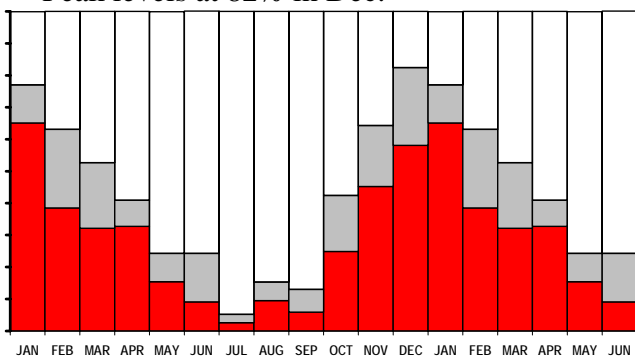
**Population** (1639 records): 29% Common, 59% Frequent, 11% Rare.

**Dispersion** (1489 records): 70% variable, 23% clumped, 6% widespread.

**Flowering** (1591 records with: Jan 111, Feb 124, Mar 130, Apr 115, May 123, Jun 69, Jul 122, Aug 140, Sep 242, Oct 183, Nov 156, Dec 76): Buds from Apr to Aug; Flowering from Aug to Oct; Peak Flowering not significant; Over from Oct to Dec; Fruit from Nov to Mar; Nothing from Jan to May. Peak levels at 98% in Sep. Historically recorded as flowering from Jul to Oct.



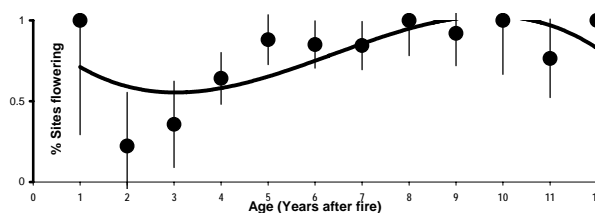
**Growth** (1561 records with: Jan 109, Feb 122, Mar 131, Apr 110, May 123, Jun 66, Jul 116, Aug 137, Sep 239, Oct 177, Nov 157, Dec 74): Much from Oct to Apr; Rare from Feb to Mar and Dec; None from Jan to Nov. Peak levels at 82% in Dec.



**Seedlings** (713 records): Absent in 95%; fewer seedlings than prefire adults in 14 cases, and more in 4 cases. Seedlings found in Jan (2), Feb (2), Aug (6), Sep (5), Oct and Dec (2).

**Fire Survival** (41 records): 83% survived by seedlings only, 15% eliminated from the area by fires, 2% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 1 year, 50% estimated at 3 years, and 100% recorded at 8 years.



**Height** (1589 records): 6% 0-0.2 m tall, 91% 0.2-1 m tall, 2% 1-2 m tall.

**Pollinators** (10 records): 60% bees or wasps, 40% beetles.

**Detailed Pollinators** (8 records): Monkey Beetle (4), Honey Bee (3), Carpenter Bee.

**Habitat:**

**Distance to Ocean** (1620 records): 86% inland - further than 2 km from coast.

**Altitude** (1620 records): 20 - 1180 m; 160 *lq* - 260 *med* - 400 *uq*m.

**Landform** (1556 records): 79% deep soil, 16% shallow soil, 4% rocky outcrops.

**Slope** (1559 records): 56% gentle incline, 31% steep incline, 7% hill top, 6% platform.

**Aspect** (1403 records): 35% South, 27% North, 20% East, 17% West.

**Soil Type** (1555 records):

66% sandy, 17% loamy, 8% gravelly, 4% rocky, 2% peaty, 2% clayey.

**Soil Colour** (1551 records):

68% grey, 18% brown, 5% white, 5% black, 2% orange, 2% yellow.

**Geology** (1559 records): 88% sandstone, 7% shale, 3% silcrete or ferricrete.

**Vegetation** (1613 records): 99% shrubland.

**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened A2c+4c.

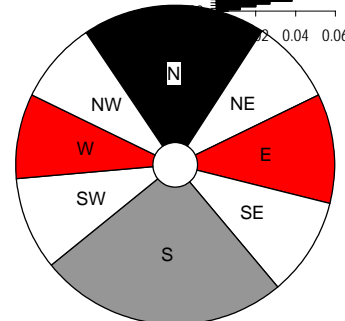
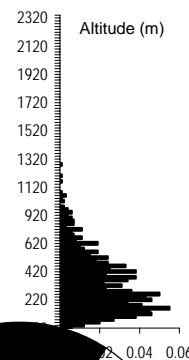
**Occurrence** (Fynbos): 3 942 km<sup>2</sup> with 18% conserved and 30% lost; **Occupancy:** 1 184 km<sup>2</sup> with 20% conserved and 23% lost. Fragmentation index: 17%.

**Nature Reserves** (1620 records): 37% in nature reserves.

**Habitat destruction** (1529 records): 94% extensive natural habitat, 3% islands, 1.0% naturally linear habitats,.

**Alien Invasive Species** (1518 records): 40% *Pinus*, 33% none, 15% Fabaceae (chiefly alien *Acacia*), 9% *Hakea*, 3% Myrtaceae.

**Alien Density** (1515 records): 33% alien-free, 53% sparse, 11% abundant, 3% dense.



**Cultivation & Utilization:**

**Picking** (1118 records): 99% no sign of picking, 0.4% lightly picked, 0.2% severely picked.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:**

Looks like a squat, mildly prostrate, cream flowered, sweet smelling, single stem *S. elongata* - but not quite right (MAJ96080601); Silver Form (TLE96100601); Had exceptionally long flower stalk - maximum length found was 420mm (WEL96031707);

New growth only on non-flowering branches at present (MAJ99110302);

Rodents had nipped off many flowerheads (NGF97121102);

Signs on almost all plants of picking (PAP93080601+2);

Lots dead (33%) within last year - drought hit here too? Not so much evident higher up as down here. (AGRY0011403);

Producing a very strong, sickly-sweet smell at 16h50 - a jasmine-sweet smell. Not noticed earlier in day although seen throughout day:

all plants were producing odour!  
(AGR91092111);  
Most dense on patch of white sand  
(APE93011616);

**Confusing Species:** Confused with *S. altiscapa* (which has a similar growth form, but much longer flowerstalks and a different inflorescence architecture. A single instance of confusion with *S. rubricaulis* which is a resprouter with kinked florets.

Records of identification queries = 27.

Records of corrected identification queries = 5.

**Variation and Taxonomy:** Around Steenbras

Dam a more squat form with short flower stalks and silver flowerheads occurs.

Locally some forms produce very long flower stalks, but this is very variable between populations and no geographic trends were noted.

**Distribution:** Add.

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*Serruria lacunosa* Rourke 1996  
Matsikamma Spiderhead

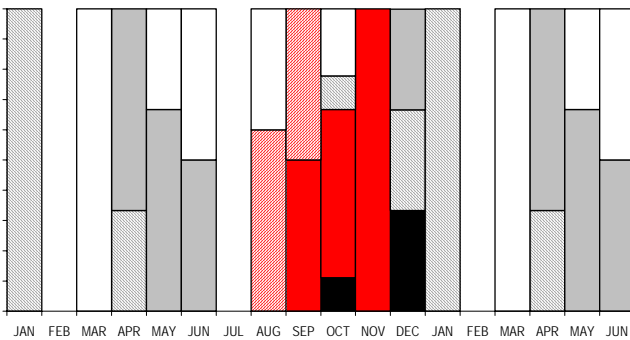
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**30 Records**

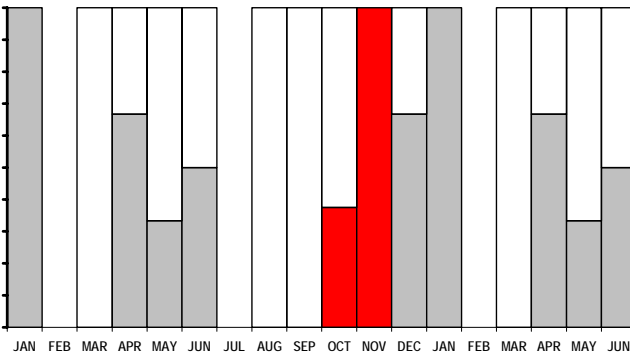
**Population** (30 records): 67% Frequent, 33% Rare.

**Dispersion** (26 records): 88% clumped, 8% variable, 4% evenly distributed.

**Flowering** (30 records with: Jan 1, Feb 0, Mar 1, Apr 3, May 3, Jun 2, Jul 0, Aug 5, Sep 2, Oct 9, Nov 1, Dec 3): Buds from Aug to Sep; Flowering from Sep to Nov; Peak Flowering from Dec; Over from Dec to Jan and Apr; Fruit from Apr to Jun and Dec; Nothing from Mar and May to Aug and Oct. Peak levels unreliable at 100% in Nov. Historically not recorded.



**Growth** (29 records with: Jan 1, Feb 0, Mar 1, Apr 3, May 3, Jun 2, Jul 0, Aug 5, Sep 2, Oct 8, Nov 1, Dec 3): Much from Oct to Nov; Rare from Dec to Jan and Apr to Jun; None from Mar to Oct and Dec. Peak levels unreliable at 100% in Nov.



**Seedlings** (3 records): Absent in 33%; fewer seedlings than prefire adults in 1 case. Seedlings found in Apr.

**Fire Survival:** No data.

**Age to first flowering:** First flowers recorded at 100% at 3 years.



**Height** (28 records): 11% 0-0.2 m tall, 82% 0.2-1 m tall, 7% 1-2 m tall.

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

**Detailed Pollinators:** No additional data.

**Habitat:**

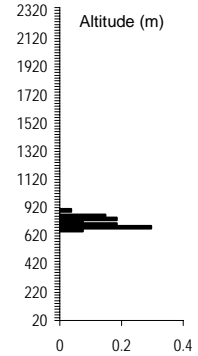
**Distance to Ocean** (27 records): 100% inland - further than 2 km from coast.

**Altitude** (27 records): 640 - 800 m; 660<sub>lq</sub> - 680<sub>med</sub> - 680<sub>uq</sub> m.

**Landform** (26 records): 92% deep soil, 8% shallow soil.

**Slope** (27 records): 81% gentle incline, 11% hill top, 4% valley bottom, 4% platform.

**Aspect** (23 records): 83% South, 13% East, 4% West.

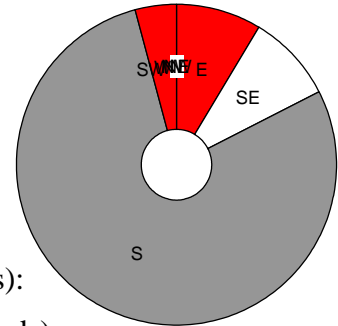


**Soil Type** (27 records): 85% sandy, 15% loamy.

**Soil Colour** (27 records): 56% brown, 22% grey, 22% white.

**Geology** (27 records): 100% sandstone.

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



**Conservation Status and Threat:**

**Red Data List Status:** Critically Endangered B1a(i)b(i,ii,iii,iv,v)c(iv)+ 2a(i)b(i,ii,iii,iv,v)c(iv).

**Occurrence** (Fynbos): 12 km<sup>2</sup> with 0% conserved and 0% lost; Occupancy: 15 km<sup>2</sup> with 5% conserved and 0% lost. Fragmentation index meaningless.

**Nature Reserves** (27 records): 0% in nature reserves - unconserved.

**Habitat destruction** (27 records): 59% extensive natural habitat, 37% naturally fragmented habitats, 4% islands.

**Alien Invasive Species** (27 records): 93% none, 7% *Pinus*.

**Alien Density** (27 records): 93% alien-free, 7% sparse.

**Cultivation & Utilization:**

**Picking** (13 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

14 plants left: two babies also died one bush looks sick (AWA98082805); It looked like one plant branched at ground level - Dave maintains there are two plants; dead plants all around (AWA99091701); Either I miscounted or plants are down from 13 last year to eleven this year (AWA99091806);

Dave Schlebush phoned on 16/10/99 to say he has found another 16 plants to the east of the one (2?) atlassed on 990917 01 (he was looking for two wayward cows!) some young plants yellowing (AWA99101601); 14 plants and some dead plants (AWAY0101201); Only 1 plant left - the Schlebushes are considering burning the site to rejuvenate the plants (AWAY0101202); 8 plants 3.06 km from 7fontein turnoff 43 plants 2.80 km (at quarry) from Sewefontein turnoff = 61 plants (AWAY0101404); 31 plants in wet patch old veld a number of dead plants as is normal with this species (AWAY0101405); 30 plants - 16 with flowers (AWAY0101406); Down to 9 plants from 11 last year - one plant stressed with no flowers (AWAY0101501); 12 plants (AWAY0101602); 15 plants (NAH96120101); These 3 are apparently a previously unknown population alongside road (NAH96120201); About 25 plants in this new population threatened by a road less than 2 m away; new population right along rd; in a ditch about 10 x 7m; discovered by Bets Schelebush in Oct '96 (NAH96120202); This population atlassed in early Dec '96 then healthy is now entirely dead - all 24 plants! no seeds were set so one can assume that this pop (60% of world total!) is now extinct - possible reasons include: disease, too wet summer (NAH97033001); Total population size here is less than 15 plants -

cuttings and seeds taken - being grown by Kirstenbosch (NAH97042202); Only 17 plants in an area of 10 m<sup>2</sup> - a previously unrecorded population seasonally damp with *Berzelia* nearby all plants currently healthy; some bigger than others (NAHY0040101); 3 plants dead in this population: now 14 alive (NAHY1012702); Although there were 4 plants there were 3 dead plants as well (NGF97061404); Plant in poor condition S of koppie in main valley (TLEY0052104); A new species? It has also not been seen elsewhere on the farm (WIJ94041306); 16 plants exist they have single stems according to the farmers wife who was requested to check this specifically from Sewefontein farm (WIJ94102511); Schlebushes say there were 13 plants recently - now 6 left (WIJY0052010);

**Confusing Species:** Originally atlassed as *S. leipoldtii*, but noted as a non-resprouter and distinct.

Records of identification queries = 5.

Records of corrected identification queries = 2.

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

**Distribution:** Add.

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*Serruria leipoldtii* Phill. & Hutch. 1912  
**Louis Leipoldt's Spiderhead**

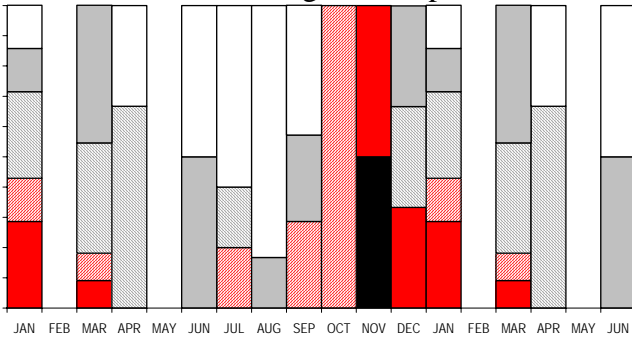
**Other Common Names:** None known.  
**Other Scientific Names:** *elongata* Drege 1844.

**48 Records**

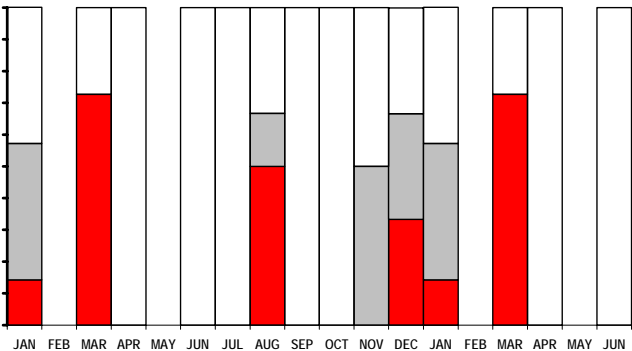
**Population** (46 records): 2% Common, 50% Frequent, 48% Rare.

**Dispersion** (40 records): 55% variable, 38% clumped, 5% evenly distributed, 3% widespread.

**Flowering** (47 records with: Jan 7, Feb 0, Mar 11, Apr 3, May 0, Jun 2, Jul 5, Aug 6, Sep 7, Oct 1, Nov 2, Dec 3): Buds from Jul and Sep to Oct; Flowering from Nov to Jan; Peak Flowering from Nov; Over from Dec to Apr and Jul; Fruit from Mar, Jun, Sep and Dec; Nothing from Apr to Sep. Peak levels unreliable at 100% in Nov. Historically recorded as flowering from Sep to Dec..



**Growth** (47 records with: Jan 7, Feb 0, Mar 11, Apr 3, May 0, Jun 2, Jul 5, Aug 6, Sep 7, Oct 1, Nov 2, Dec 3): Much from Dec to Mar and Aug; Rare from Nov to Jan and Aug; None from all year round. Peak levels unreliable at 73% in Mar.



**Seedlings** (27 records): All without any seedlings present.

**Fire Survival** (14 records): 86% resprouted from underground boles, 14% survived by seedlings only.

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



**Height** (46 records): 11% 0-0.2 m tall, 89% 0.2-1 m tall.

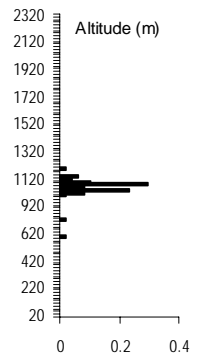
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (47 records): 100% inland - further than 2 km from coast.

**Altitude** (47 records): 580 - 1100 m; 920<sub>lq</sub> - 940<sub>med</sub> - 940<sub>uq</sub>m.



**Landform** (46 records): 78% deep soil, 17% shallow soil, 4% rocky outcrops.

**Slope** (46 records): 52% gentle incline, 26% platform, 15% hill top, 7% valley bottom.

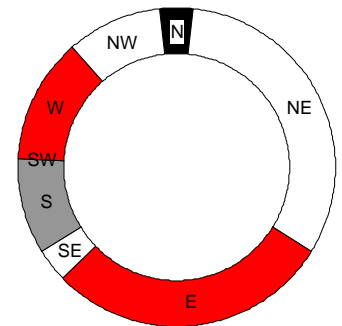
**Aspect** (31 records): 47% East, 24% North, 18% West, 11% South.

**Soil Type** (46 records):

83% sandy, 11% gravelly, 4% loamy, 2% clayey.

**Soil Colour** (46 records):

37% grey, 33% brown, 15% white, 9% orange, 4% yellow, 2% red.



**Geology** (46 records): 93% sandstone, 7% shale.

**Vegetation** (46 records): 100% shrubland.

**Conservation Status and Threat:**

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

**Occurrence (Fynbos):** 161 km<sup>2</sup> with 64% conserved and 1% lost; **Occupancy:** 58 km<sup>2</sup> with 48% conserved and 2% lost. **Fragmentation index:** 33%.

**Nature Reserves** (47 records): 64% in nature reserves - well conserved.

**Habitat destruction** (44 records): 93% extensive natural habitat, 2% islands, 2% naturally linear habitats, 2% naturally fragmented habitats.

**Alien Invasive Species** (44 records): 93% none, 7% *Pinus*.

**Alien Density** (44 records): 93% alien-free, 5% sparse, 2% abundant.

**Cultivation & Utilization:**



**Picking** (37 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Suspect the 'M growth' are flower buds coming out as leaves (AWA95081901);  
Most abundant (half plants) on erosion scar! (AGRY5122805); Growing next to or near rocks [13 plants] (AWA95081901);

**Confusing Species:** Atlassed as *S. cygnea* which has capitula and forms a flat mat.

Records of identification queries = 4.  
Records of corrected identification queries = 2.

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

**Distribution:** Add.

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*Serruria meisneriana* Schltr. 1900  
Dainty Spiderhead

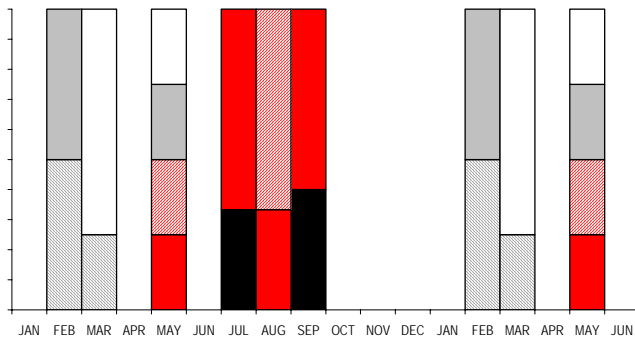
**Other Common Names:** None known.  
**Other Scientific Names:** *glaberrima* var. *pinnata* Meisn. 1856.

**26 Records**

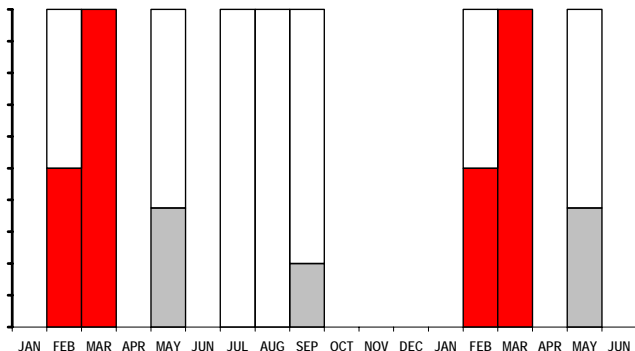
**Population** (25 records): 20% Common, 68% Frequent, 12% Rare.

**Dispersion** (25 records): 72% variable, 28% clumped.

**Flowering** (25 records with: Jan 0, Feb 2, Mar 4, Apr 0, May 8, Jun 0, Jul 3, Aug 3, Sep 5, Oct 0, Nov 0, Dec 0): Buds from May and Aug; Flowering from May to Sep; Peak Flowering from Jul and Sep; Over from Feb to Mar; Fruit from Feb and May; Nothing from Mar to May. Peak levels unreliable (no summer data) at 100% from Jul to Sep. Historically recorded as flowering from Jul to Oct.



**Growth** (25 records with: Jan 0, Feb 2, Mar 4, Apr 0, May 8, Jun 0, Jul 3, Aug 3, Sep 5, Oct 0, Nov 0, Dec 0): Much from Feb to Mar; Rare from May and Sep; None from May to Feb. Peak levels unreliable at 100% in Mar.



**Seedlings** (10 records): All without any seedlings present.

**Fire Survival** : No data.

**Age to first flowering:** First flowers recorded at 100% at 7 years, no data from younger veld.

**Height** (25 records): 8% 0-0.2 m tall, 92% 0.2-1 m tall.

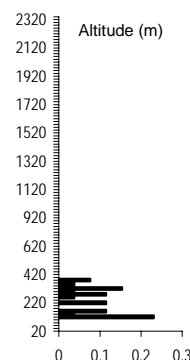
**Pollinators** (1 record): 100% beetles.

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

**Habitat:**

**Distance to Ocean** (26 records): 100% inland - further than 2 km from coast.

**Altitude** (26 records): 100 - 380 m; 120<sub>lq</sub> - 220<sub>med</sub> - 280<sub>uq</sub>m.



**Landform** (25 records): 68% deep soil, 24% shallow soil, 8% rocky outcrops.

**Slope** (25 records): 72% gentle incline, 20% steep incline, 4% hill top, 4% platform.

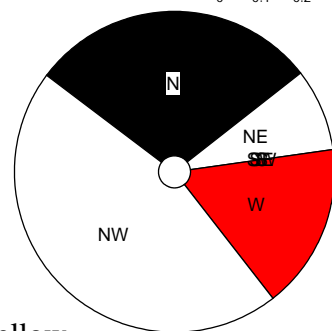
**Aspect** (24 records): 60% North, 35% West, 4% East.

**Soil Type** (25 records): 56% sandy, 28% gravelly, 12% loamy, 4% rocky.

**Soil Colour** (25 records): 52% grey, 28% brown, 12% white, 8% yellow.

**Geology** (21 records): 90% sandstone, 10% shale.

**Vegetation** (25 records): 100% shrubland.



**Conservation Status and Threat:** Red Data List Status: Endangered A2c.

Occurrence (Fynbos): 43 km<sup>2</sup> with 0% conserved and 6% lost; Occupancy: 28 km<sup>2</sup> with 0% conserved and 20% lost. Fragmentation index: 50%.

**Nature Reserves** (26 records): 0% in nature reserves - unconserved.

**Habitat destruction** (25 records): 92% extensive natural habitat, 4% islands, 4% corridors.

**Alien Invasive Species** (25 records): 40% *Pinus*, 36% *Hakea*, 24% Fabaceae (chiefly alien *Acacia*).

**Alien Density** (25 records): 56% sparse, 44% abundant.

**Cultivation & Utilization:**

**Picking** (17 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Very uncommon in veld older than about 8 years (NAH96031001); Definitely on Table Mountain Sandstone soils and not shale (NAH96031001);

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

**Variation and Taxonomy:** No variation noted. This species is a link between the Stalked Spiderheads and the Whip-leaf Spiderheads.

**Distribution:** Add.

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*Serruria williamsii* Rourke 1982  
King Spiderhead

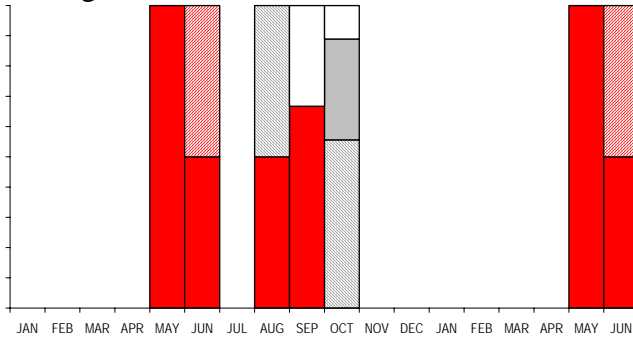
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**17 Records**

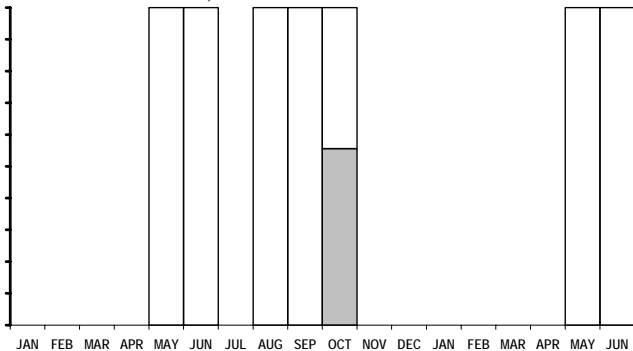
**Population** (16 records): 19% Common, 69% Frequent, 13% Rare.

**Dispersion** (15 records): 53% clumped, 47% variable.

**Flowering** (17 records with: Jan 0, Feb 0, Mar 0, Apr 0, May 1, Jun 2, Jul 0, Aug 2, Sep 3, Oct 9, Nov 0, Dec 0): Buds from Jun; Flowering from May to Sep; Peak Flowering not recorded; Over from Aug and Oct; Fruit from Oct; Nothing from Sep. Peak levels unreliable (no summer data) at 100% from May to Aug. Historically recorded as flowering from Feb to Dec, peaking from Aug to Nov.



**Growth** (17 records with: Jan 0, Feb 0, Mar 0, Apr 0, May 1, Jun 2, Jul 0, Aug 2, Sep 3, Oct 9, Nov 0, Dec 0): Much not recorded – no summer data!; Rare from Oct; None from May to Oct. Peak levels unreliable (no summer data) at 56% in Oct.



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

**Fire Survival** : No data.

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

**Height** (17 records): 88% 0.2-1 m tall, 12% 1-2 m tall.

**Pollinators**: No data.

**Detailed Pollinators**: No additional data.

**Habitat:**

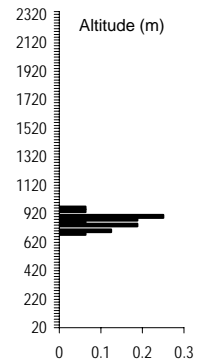
**Distance to Ocean** (16 records): 100% inland - further than 2 km from coast.

**Altitude** (16 records): 660 - 860 m; 720<sub>lq</sub> - 740<sub>med</sub> - 760<sub>uq</sub>m.

**Landform** (16 records): 75% deep soil, 19% shallow soil, 6% rocky outcrops.

**Slope** (16 records): 88% gentle incline, 6% steep incline, 6% hill top.

**Aspect** (14 records): 68% North, 18% East, 14% West.



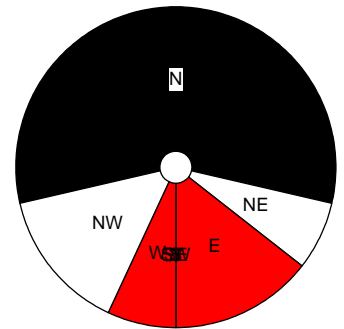
**Soil Type** (16 records):

44% sandy, 38% loamy, 13% gravelly, 6% rocky.

**Soil Colour** (16 records): 75% grey, 25% brown.

**Geology** (16 records): 100% sandstone.

**Vegetation** (16 records): 100% shrubland.



**Conservation Status and Threat:**

**Red Data List Status:** Endangered

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

Occurrence (Fynbos): 28 km<sup>2</sup> with 0% conserved and 0% lost; Occupancy: 14 km<sup>2</sup> with 5% conserved and 0% lost. Fragmentation index: 48%.

**Nature Reserves** (16 records): 0% in nature reserves - unconserved.

**Habitat destruction** (16 records):

94% extensive natural habitat, 6% islands.

**Alien Invasive Species** (16 records): 88% none, 13% *Pinus*.

**Alien Density** (16 records): 88% alien-free, 13% sparse.

**Cultivation & Utilization:**

**Picking** (15 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:** None.

**Confusing Species:** None noted.

Records of identification queries = 1

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

**Distribution:** Add.

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## *Serruria decumbens* (Thunb.) R.Br. 1781, 1810 Peninsula Spiderhead

**Other Common Names:** Winter-flowering Serruria.

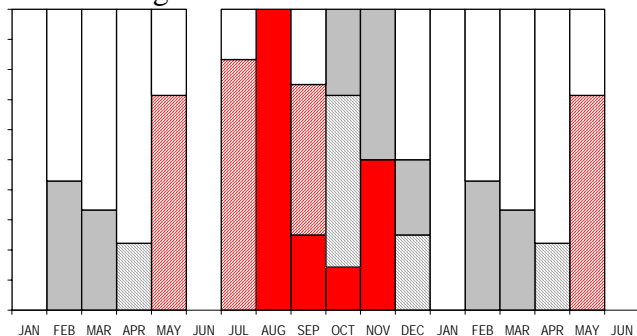
**Other Scientific Names:** *hyamalis* Salisb. ex Knight 1809, *procumbens* Lf. 1781.

### 56 Records

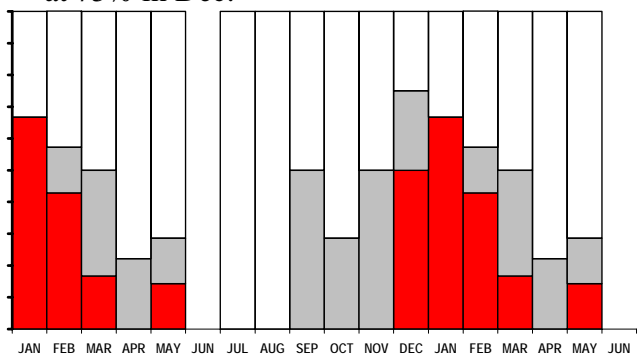
**Population** (56 records): 4% Common, 52% Frequent, 45% Rare.

**Dispersion** (46 records): 61% clumped, 28% variable, 9% evenly distributed, 2% widespread.

**Flowering** (56 records with: Jan 3, Feb 7, Mar 6, Apr 9, May 7, Jun 0, Jul 6, Aug 1, Sep 4, Oct 7, Nov 2, Dec 4): Buds from May to Jul and Sep; Flowering from Aug to Sep and Nov; Peak Flowering not recorded; Over from Apr, Oct and Dec; Fruit from Feb to Mar and Oct to Dec; Nothing from Dec to May and Sep. Peak levels unreliable at 100% in Aug. Historically recorded as flowering from Jul to Oct.



**Growth** (56 records with: Jan 3, Feb 7, Mar 6, Apr 9, May 7, Jun 0, Jul 6, Aug 1, Sep 4, Oct 7, Nov 2, Dec 4): Much from Dec to Feb; Rare from Mar to Apr and Sep to Dec; None from all year round. Peak levels unreliable at 75% in Dec.



**Seedlings** (16 records): Absent in 38%: fewer seedlings than prefire adults in 4 cases, and more in 1 case. Seedlings found in Feb, Mar, Apr and May (2).

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

**Age to first flowering:** First flowers recorded at 6 years, 50% estimated at 5-6 years, and 100% consistently recorded at 8 years.



**Height** (56 records): 96% 0-0.2 m tall, 4% 0.2-1 m tall.

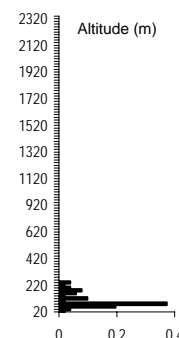
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

### Habitat:

**Distance to Ocean** (51 records): 92% coastal - less than 2 km from coast.

**Altitude** (51 records): 20 - 240 m; 40 *lq* - 80 *med* - 80 *uq*m.



**Landform** (50 records): 42% shallow soil, 36% deep soil, 20% rocky outcrops, 2% riverine.

**Slope** (50 records): 48% gentle incline, 18% hill top, 16% platform, 14% steep incline, 2% dunes, 2% valley bottom.

**Aspect** (36 records): 33% West, 29% South, 28% North,

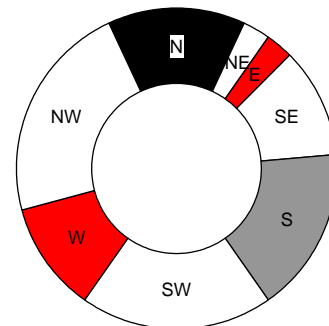
10% East.

**Soil Type** (50 records): 84% sandy, 12% loamy, 4% rocky.

**Soil Colour** (50 records): 84% grey, 12% white, 2% black, 2% brown.

**Geology** (50 records): 100% sandstone.

**Vegetation** (50 records): 100% shrubland.



### Conservation Status and Threat:

**Red Data List Status:** Endangered

B1a(i,ii)c(iv)+2a(i,ii)c(iv)<sub>2</sub>  
Occurrence (Fynbos): 23 km<sup>2</sup> with 100% conserved and 1% lost; Occupancy: 28 km<sup>2</sup> with 82% conserved and 4% lost.  
Fragmentation index meaningless

**Nature Reserves** (51 records): 96% in nature reserves - well conserved.

**Habitat destruction** (49 records): 98% extensive natural habitat, 2% naturally fragmented habitats.

**Alien Invasive Species** (49 records): 65% none, 35% Fabaceae (chiefly alien *Acacia*).

**Alien Density** (49 records): 65% alien-free, 35% sparse.

### Cultivation & Utilization:

**Picking** (45 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Sprawling over big rocks 1-2 m in diameter (WIJ94101604); Large mats with lots of buds formed over the flat rocks (LYM97071303);

Shows centrifugal flowering behaviour (SHR96101301);

Nigel's plant is dead (was big - 2 m long) but a single very small plant 50 mm across and 50 mm high remains (AGRY4041101);

11 plants counted (AGRY5091007); About 30 plants - 97% young (CNR95032401); Population about 110 plants in an area about 8 x 17 m = 90-99% young plants (CNR95051401); Covers about 200 x 40 m:

about 600 plants 99% young plants - extends down to river bank! (CNR95051504);

**Confusing Species:** None noted. Potentially confusable with *S. collina*, but this is a resprouter with much larger heads with inconspicuous floral bracts.

Records of identification queries = 2.

**Variation and Taxonomy:** No variation noted, although Bonteberg population appears more robust.

**Distribution:** Add.

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*Serruria flagellifolia* Salisb. ex Kn. 1809  
**Houwhoek Spiderhead**

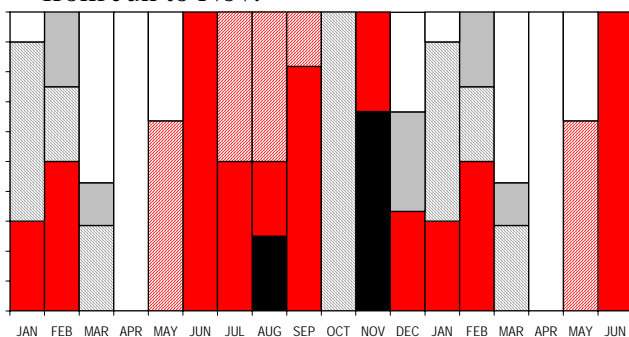
**Other Common Names:** Lash-leaf Serruria.  
**Other Scientific Names:** *decumbens* Willd. ex Meisn 1856, *glaberrima* R. Br. 1810

**70 Records**

**Population** (69 records): 1% Abundant, 42% Common, 45% Frequent, 12% Rare.

**Dispersion** (65 records): 72% variable, 20% clumped, 8% widespread.

**Flowering** (69 records with: Jan 10, Feb 4, Mar 7, Apr 1, May 11, Jun 8, Jul 6, Aug 4, Sep 11, Oct 1, Nov 3, Dec 3): Buds from May and Jul to Aug; Flowering from Jun to Feb; Peak Flowering from Aug and Nov; Over from Jan to Mar; Fruit from Feb and Dec; Nothing from Mar to May and Dec. Peak levels at 100% from Jun to Nov, peaking in Nov. Historically recorded as flowering from Jun to Nov.



**Height** (68 records): 84% 0-0.2 m tall, 16% 0.2-1 m tall.

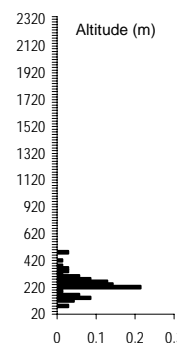
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (70 records): 100% inland - further than 2 km from coast.

**Altitude** (70 records): 60 - 480 m; 200<sub>lq</sub> - 220<sub>med</sub> - 220<sub>uq</sub>m.

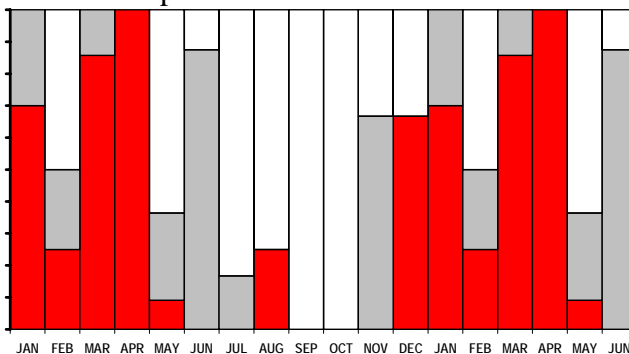


**Landform** (69 records): 90% deep soil, 10% shallow soil.

**Slope** (69 records): 75% gentle incline, 12% steep incline, 10% platform, 1% hill top, 1% valley bottom.

**Aspect** (65 records): 28% East, 28% South, 24% North, 20% West.

**Growth** (69 records with: Jan 10, Feb 4, Mar 7, Apr 1, May 11, Jun 8, Jul 6, Aug 4, Sep 11, Oct 1, Nov 3, Dec 3): Much from Dec to Apr and Aug; Rare from Jan to Feb, May to Jun and Nov; None from Feb, May and Jul to Dec. Peak levels unreliable at 100% from Mar to Apr.

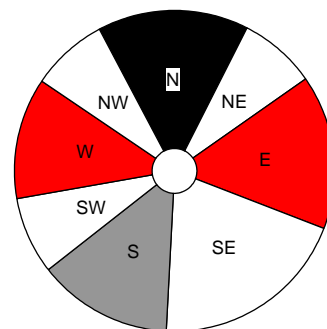


**Soil Type** (69 records): 72% sandy, 19% loamy, 6% gravelly, 3% clayey.

**Soil Colour** (69 records): 54% grey, 23% brown, 12% yellow, 10% white, 1% orange.

**Geology** (64 records): 89% sandstone, 9% shale, 2% silcrete or ferricrete.

**Vegetation** (69 records): 100% shrubland.



**Conservation Status and Threat:**

**Red Data List Status:** Vulnerable A4c, B1a(ii)b(i,ii,iii,iv,v)+2a(ii)b(i,ii,iii,iv,v).

**Occurrence** (Fynbos): 280 km<sup>2</sup> with 23% conserved and 39% lost; **Occupancy:** 68 km<sup>2</sup> with 29% conserved and 23% lost. **Fragmentation index:** 20%.

**Nature Reserves** (70 records): 27% in nature reserves.

**Habitat destruction** (69 records): 94% extensive natural habitat, 3% islands, 1% naturally linear habitats, 1% naturally fragmented habitats.

**Alien Invasive Species** (68 records): 57% *Pinus*, 26% Fabaceae (chiefly alien *Acacia*), 9% none, 4% Myrtaceae, 3% *Hakea*.

**Alien Density** (68 records): 9% alien-free, 71% sparse, 18% abundant, 3% dense.

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

**Fire Survival** (2 records): 50% eliminated from the area by fires, 50% survived by seedlings only.

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

**Cultivation & Utilization:**

**Picking** (59 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Probably more plants but hard to see especially when not flowering! (MAJ92031702);

Most of plants seen are in recently burnt veld (MAJ92031702);

**Confusing Species:** None noted.

Records of identification queries = 1.

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

**Distribution:** Add.

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## *Serruria acrocarpa* R.Br. 1810 Hawekwas Spiderhead

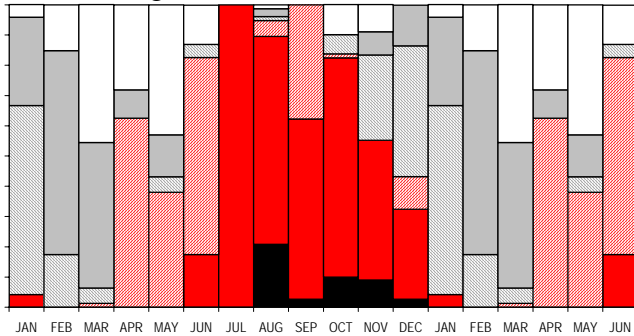
**Other Common Names:** None known.  
**Other Scientific Names:** *adscendens* E.Mey. ex Drege 1844, *saxicola* Beuk ex E.Mey. ex Drege 1844.

### 601 Records

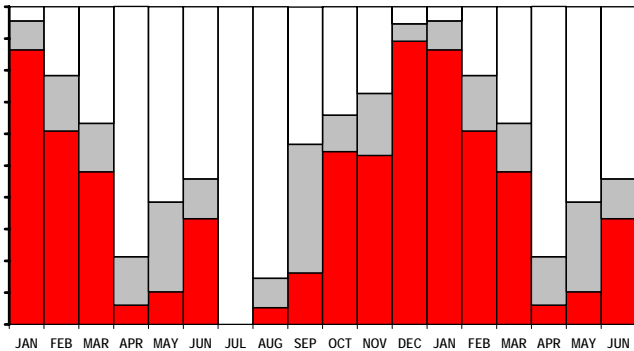
**Population** (598 records): 1% Abundant, 48% Common, 40% Frequent, 11% Rare.

**Dispersion** (567 records): 77% variable, 20% clumped, 3% widespread, 0.5% evenly distributed.

**Flowering** (593 records with: Jan 24, Feb 46, Mar 79, Apr 32, May 79, Jun 23, Jul 1, Aug 77, Sep 37, Oct 80, Nov 78, Dec 37): Buds from Apr to Jun and Sep; Flowering from Jul to Dec; Peak Flowering from Aug; Over from Nov to Jan; Fruit from Jan to Mar; Nothing from Mar to May. Peak levels at 100% in Jul. Historically recorded as flowering from Jul to Feb.



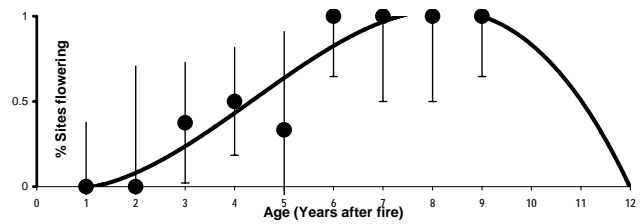
**Growth** (589 records with: Jan 22, Feb 46, Mar 79, Apr 33, May 78, Jun 24, Jul 1, Aug 76, Sep 37, Oct 79, Nov 77, Dec 37): Much from Oct to Mar and Jun; Rare from May and Sep; None from Feb to Nov. Peak levels at 96% in Jul.



**Seedlings** (268 records): Absent in 89%: fewer seedlings than prefire adults in 4 cases, and more in 11 cases. Seedlings found in Mar (2), Jun (2), Oct (5) and Nov (6).

**Fire Survival** (57 records): 88% survived by seedlings only, 7% escaped fires in fire-safe areas, 4% resprouted from underground boles, 2% eliminated from the area by fires.

**Age to first flowering:** First flowers recorded at 1 year, 50% estimated at 4-5 years, and 100% recorded at 7 years.



**Height** (595 records): 5% 0-0.2 m tall, 82% 0.2-1 m tall, 13% 1-2 m tall.

**Pollinators** (43 records): 37% bees or wasps, 28% beetles, 23% butterflies or moths, 12% flies.

**Detailed Pollinators** (23 records): Monkey Beetle (7), Honey Bee (7), Moth (unspecified) (5), Carpenter Bee (2), Wasp (unspecified), African Monarch Butterfly.

### Habitat:

**Distance to Ocean** (601 records): 100% inland - further than 2 km from coast.

**Altitude** (601 records): 60 - 1580 m; 280 *lq* - 460 *med* - 720 *uq*m.

**Landform** (600 records): 74% deep soil, 23% shallow soil, 3% rocky outcrops.

**Slope** (599 records): 57% gentle incline, 28% steep incline, 11% platform, 3% hill top, 1% valley bottom.

**Aspect** (553 records): 29% West, 29% North, 27% East, 15% South.

**Soil Type** (596 records):

52% sandy, 22% loamy, 16% gravelly, 8% rocky, 2% clayey.

**Soil Colour** (598 records):

45% brown, 33% grey, 8% orange, 7% white, 3% yellow, 3% red.

**Geology** (560 records): 68% sandstone, 27% shale, 3% conglomerate, 1% Tertiary sands.

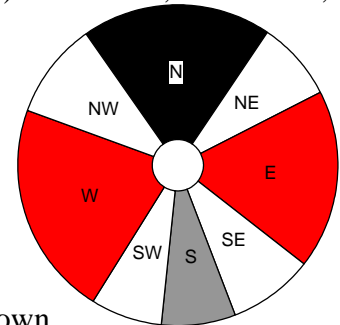
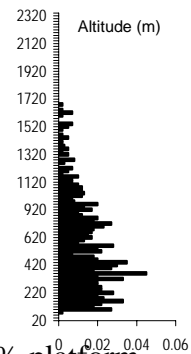
**Vegetation** (601 records): 100% shrubland.

### Conservation Status and Threat:

**Red Data List Status:** Least Concern. Occurrence (Fynbos): 3 130 km<sup>2</sup> with 28% conserved and 18% lost; Occupancy: 550 km<sup>2</sup> with 23% conserved and 11% lost. Fragmentation index: 14%.

**Nature Reserves** (601 records): 24% in nature reserves.

**Habitat destruction** (594 records): 91% extensive natural habitat, 5% islands, 2% naturally linear habitats, 1% naturally fragmented habitats.





**Alien Invasive Species** (586 records):  
41% none, 31% *Hakea*, 13% Fabaceae  
(chiefly alien *Acacia*), 13% *Pinus*,  
2% Myrtaceae.

**Alien Density** (586 records): 41% alien-free,  
48% sparse, 9% abundant, 2% dense.

**Cultivation & Utilization:**

**Picking** (457 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:**

Highest up population of *S. acrocarpa* (neat  
rounded bushes). Further east is *S.*  
*pedunculata* (scraggly and untidy) - A nice  
contact point between the two species  
(AGR96042805); At transition zone - *S.*  
*acrocarpa* lower down and *S. pedunculata*  
higher up and East (GEH98080901);  
*S. acrocarpa* at last! So it is here - not only *S.*  
*reflexa* - strange! By now I was convinced  
that *S. reflexa* had expanded its niche in the  
absence of this species and that I would not  
find it until Dasklip Pass - so this is the  
northernmost record on 24 River Mountains  
(AGRY3112556); *S. acrocarpa* and *S.*  
*reflexa* ranges do not overlap in this plot  
(SHR95031801);

Plants very dry - nearly dead (LYMY1032404);  
Stressed (LYMY1032405);

Moths - Millions Of Moths on flowerheads  
(LYMY1032405); African Monarch  
Butterflies on flowerheads (PMRY0111104,  
WMPY0111102);

**Confusing Species:** Atlasers quickly  
recognized this as a new undescribed  
species, and it was assigned the name *S.*  
*dodii* on the basis that it most resembled this  
species, but confusion could be avoided as  
they did not overlap in ranges (and the  
perianth is pink not yellow). However, in the  
north and at odd localities it was difficult to  
distinguish from *S. pedunculata* (which is a  
straggly plant, with spreading hairs on the  
tepals and longer flowerhead stalks, 53% of  
corrected queries), especially when the  
features of the plants suggested *S. acrocarpa*  
but the perianth hairs were spreading. It was  
also confused with *S. aitonii* (19%, which  
has much more silvery, neater leaves, and  
straighter flowers with spreading hairs), and  
*S. fucifolia* (12%, which has straighter styles  
and much longer leaves). The fact that the  
name *acrocarpa* was used for another  
species really confused atlasers, and this  
fact was downplayed, although some  
atlasers who had identifications by John  
Rourke were consequently confused!

Records of identification queries = 585.

Records of corrected identification queries = 43.

**Variation and Taxonomy:** Very little  
variation, although in the north (north of  
Groot Winterhoek Mountain) populations  
start to resemble *S. pedunculata*.

**Distribution:** Add.

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*Serruria aitonii* R.Br. 1810  
**Marshmallow Spiderhead**  
*Sousie*

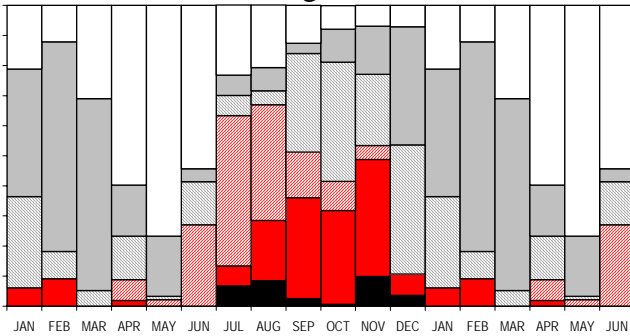
**Other Common Names:** None known.  
**Other Scientific Names:** *argentifolia* Phill & Hutch 1912, *multifida* E.Mey. ex Drege 1844, *subumbellata* E.Mey. ex Drege 1844, *tomentosa* Meisn 1856.

**1046 Records**

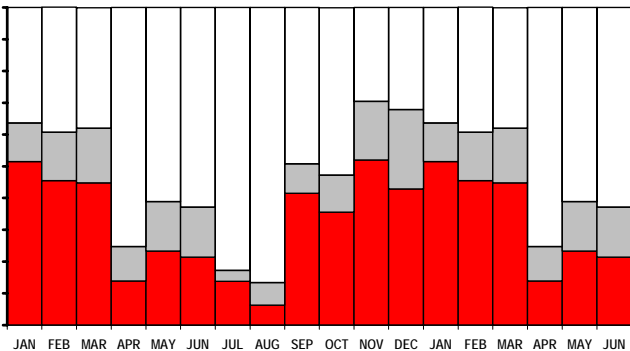
**Population** (1044 records): 1% Abundant, 30% Common, 50% Frequent, 18% Rare.

**Dispersion** (949 records): 72% variable, 23% clumped, 4% widespread, 1% evenly distributed.

**Flowering** (1035 records with: Jan 33, Feb 33, Mar 58, Apr 159, May 90, Jun 70, Jul 30, Aug 130, Sep 119, Oct 154, Nov 131, Dec 28): Buds from Jun to Aug; Flowering from Aug to Nov; Peak Flowering not significant; Over from Sep to Jan; Fruit from Dec to Mar and May; Nothing from Jan and Mar to Aug. Peak levels at 84% in Sep. Historically recorded as flowering from Jul to Nov.



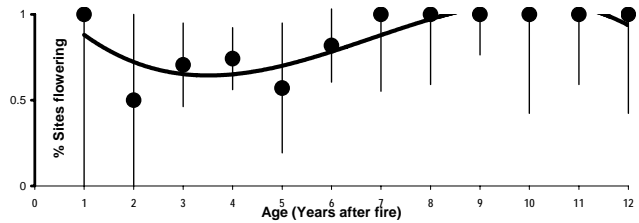
**Growth** (1015 records with: Jan 33, Feb 33, Mar 58, Apr 158, May 90, Jun 70, Jul 29, Aug 127, Sep 118, Oct 146, Nov 125, Dec 28): Much from Sep to Mar and May to Jun; Rare from Dec; None from all year round. Peak levels at 70% in Nov.



**Seedlings** (383 records): Absent in 94%: fewer seedlings than prefire adults in 3 cases, and more in 8 cases. Seedlings found in Jan (4), Jun, Sep (2), Nov (3) and Dec.

**Fire Survival** (58 records): 78% survived by seedlings only, 14% escaped fires in fire-safe areas, 9% eliminated from the area by fires.

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



**Height** (1036 records): 8% 0-0.2 m tall, 81% 0.2-1 m tall, 12% 1-2 m tall.

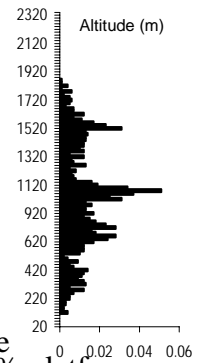
**Pollinators** (32 records): 59% beetles, 25% bees or wasps, 9% flies, 6% butterflies or moths.

**Detailed Pollinators** (8 records): Monkey Beetle (4), Honey Bee (3), Green Beetle.

**Habitat:**

**Distance to Ocean** (1040 records): 100% inland - further than 2 km from coast.

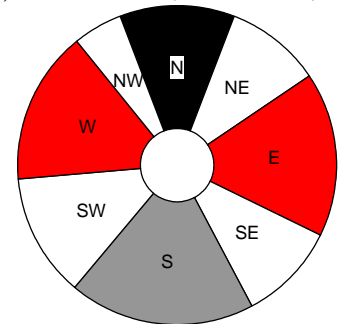
**Altitude** (1040 records): 100 - 1760 m; 640 *lq* - 920 *med* - 1100 *uq*m.



**Landform** (1036 records): 70% deep soil, 24% shallow soil, 6% rocky outcrops.

**Slope** (1033 records): 55% gentle incline, 24% steep incline, 10% platform, 7% hill top, 3% valley bottom.

**Aspect** (890 records): 29% South, 27% East, 25% West, 18% North.



**Soil Type** (1037 records): 64% sandy, 17% loamy, 9% gravelly, 9% rocky.

**Soil Colour** (1032 records): 49% brown, 32% grey, 7% yellow, 5% white, 5% orange, 3% red.

**Geology** (1006 records): 87% sandstone, 11% shale, 1% silcrete or ferricrete.

**Vegetation** (1035 records): 99% shrubland.

**Conservation Status and Threat:**

**Red Data List Status:** Least Concern. Occurrence (Fynbos): 6 183 km<sup>2</sup> with 14% conserved and 17% lost; Occupancy: 835 km<sup>2</sup> with 24% conserved and 7% lost. Fragmentation index: 11%.

**Nature Reserves** (1040 records): 30% in nature reserves.

**Habitat destruction** (1021 records): 90% extensive natural habitat, 5% islands, 2% naturally fragmented habitats, 2% naturally linear habitats.

**Alien Invasive Species** (1008 records):  
83% none, 12% *Pinus*, 3% Fabaceae (chiefly  
alien *Acacia*), 1% Myrtaceae.  
**Alien Density** (1004 records): 83% alien-free,  
14% sparse, 2% abundant.

**Cultivation & Utilization:**

**Picking** (722 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Witch's Broom Infestation:** 2 records (0.2%).

**Atlassers Notes:**

Plus 1 dead (AGR98080807); One dead  
skeleton seen (AGRY0042821); 3 dead  
plants (AWA99100402); Many plants dead  
(AWAY0102305); A lot of the young plants  
had died (LYM99060905); Many dead plants  
(OUTY0092504); Shows significant  
mortality (SHRY0052801);

Thousands more in young veld  
(AGR99051509), but almost none left in  
mature veld (AGR99051510);

Spreading into old lands (AGR99051512); Most  
abundant on erosion scar! (AGRY5122805);

Pollinator is an iridescent blue beetle  
(TLE95101403);

Plate-like growth on one plant coded as Witches  
Broom (NGF96111705);

**Confusing Species:** Quite distinct with its neat  
leaves and spreading hairs, but sometimes  
difficult to identify when in new growth  
without flowerheads. Confused with *S.*  
*pedunculata* (32% of corrected queries,  
which has spreading hairs on the perianth  
and untidier leaves), *acrocarpa* (16%, which  
is more similar, but lacks the neat, square  
leaves), *deciens* (12%), *fucifolia* (8%, with  
much longer leaves), and once each with  
*aemula* (a resprouter with straight flowers),  
*cygnea* (a prostrate resprouter) and *leipoldtii*  
(a coarse-leaved resprouter).

Records of identification queries = 69.

Records of corrected identification queries = 25.

**Variation and Taxonomy:** **Atlassers noted a  
small flowered form at: check up in records  
wjj!**

**Distribution:** Add.

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*Serruria banocephala* Rourke 1994.  
Acorn Spiderhead

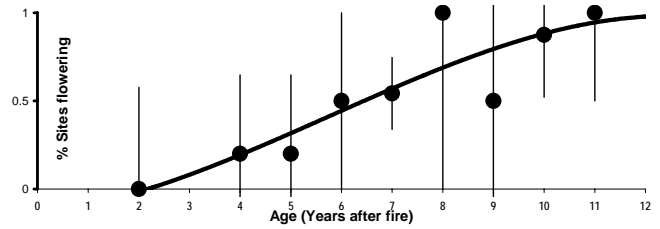
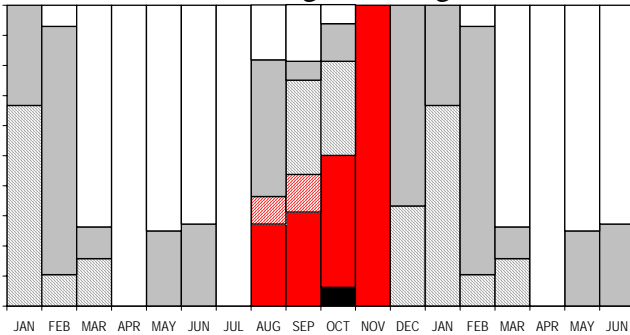
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**172 Records**

**Population** (168 records): 1% Abundant, 45% Common, 45% Frequent, 9% Rare.

**Dispersion** (159 records): 52% variable, 40% clumped, 7% widespread, 0.6% evenly distributed.

**Flowering** (166 records with: Jan 6, Feb 57, Mar 19, Apr 8, May 8, Jun 11, Jul 4, Aug 11, Sep 16, Oct 16, Nov 4, Dec 6): Buds not significant; Flowering from Aug to Nov; Peak Flowering not significant; Over from Sep to Jan; Fruit from Dec to Feb and May to Aug; Nothing from Mar to Jul. Peak levels unreliable at 100% in Nov. Historically recorded as flowering from Aug to Nov.



**Height** (168 records): 5% 0-0.2 m tall, 76% 0.2-1 m tall, 19% 1-2 m tall.

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

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (171 records): 100% inland - further than 2 km from coast.

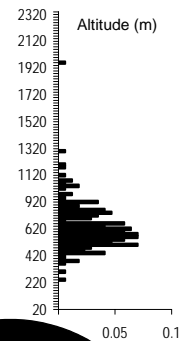
**Altitude** (171 records): 220 - 1860 m; 500 *lq* - 580 *med* - 660 *uq*m.

**Landform** (170 records):

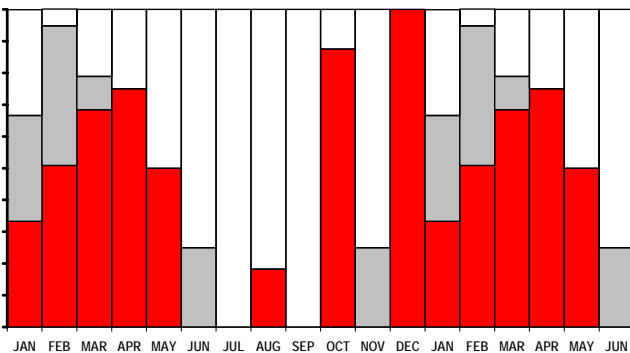
62% deep soil, 24% rocky outcrops, 14% shallow soil.

**Slope** (170 records): 46% gentle incline, 46% steep incline, 5% hill top, 2% valley bottom.

**Aspect** (160 records): 57% North, 18% South, 17% East, 8% West.



**Growth** (167 records with: Jan 6, Feb 57, Mar 19, Apr 8, May 8, Jun 12, Jul 4, Aug 11, Sep 16, Oct 16, Nov 4, Dec 6): Much from Oct to May; Rare from Jan to Feb, Jun and Nov; None from Jan, Mar to Sep and Nov. Peak levels at 95% in Feb.



**Soil Type** (169 records):

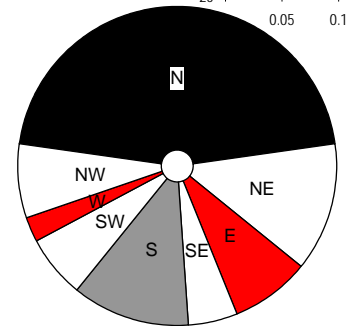
48% sandy, 29% loamy, 14% gravelly, 8% rocky.

**Soil Colour** (169 records):

53% grey, 31% brown, 12% yellow, 2% white, 1% orange.

**Geology** (168 records): 99% sandstone.

**Vegetation** (169 records): 98% shrubland, 2% grassland.



**Seedlings** (96 records): All without any seedlings present.

**Fire Survival** (9 records): 100% survived by seedlings only.

**Age to first flowering:** First flowers recorded at 4 years, 50% estimated at 6 years, and 100% consistently recorded at 11 years.

**Conservation Status and Threat:**

**Red Data List Status:** Near Threatened A4c.

**Occurrence** (Fynbos): 335 km<sup>2</sup> with 40% conserved and 3% lost; **Occupancy:** 162 km<sup>2</sup> with 34% conserved and 5% lost. **Fragmentation index:** 16%.

**Nature Reserves** (171 records): 30% in nature reserves.

**Habitat destruction** (166 records): 96% extensive natural habitat, 1% islands, 1% naturally linear habitats, 1% naturally fragmented habitats.

**Alien Invasive Species** (157 records): 80% none, 9% *Hakea*, 7% Fabaceae (chiefly alien *Acacia*), 2% Myrtaceae, 1% *Pinus*.

**Alien Density** (157 records): 80% alien-free, 18% sparse.

**Cultivation & Utilization:**

**Picking** (118 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Heavily grazed by farm animals  
(SHRY1020201);

**Confusing Species:** Occasionally confused with *S. ludwigii* – but this is a resprouter.  
Records of identification queries = 14.

Records of corrected identification queries = 4.

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

**Distribution:** Add.

INCLUDEPICTURE

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*Serruria cygnea* R.Br. 1810  
Swan Spiderhead

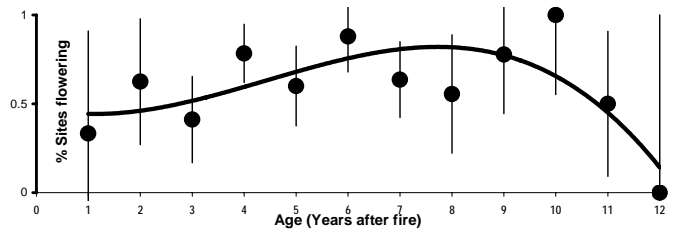
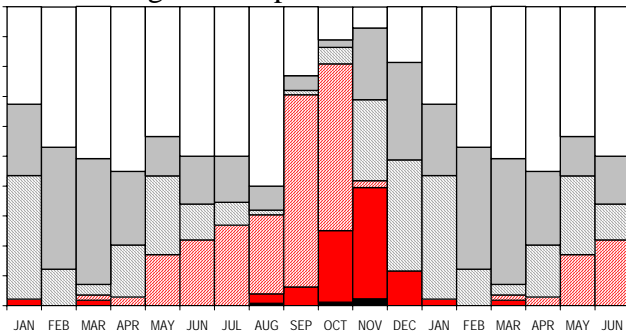
**Other Common Names:** None known.  
**Other Scientific Names:** *colorata* Zeyh ex Meisn 1856, *cyanea* E.Mey. ex Drege 1844, *helvola* Steud 1841.

**985 Records**

**Population** (981 records): 16% Common, 60% Frequent, 23% Rare.

**Dispersion** (867 records): 66% variable, 25% clumped, 6% widespread, 2% evenly distributed.

**Flowering** (976 records with: Jan 46, Feb 49, Mar 57, Apr 69, May 76, Jun 50, Jul 26, Aug 125, Sep 143, Oct 163, Nov 129, Dec 43): Buds from Jun to Oct; Flowering from Oct to Nov; Peak Flowering not significant; Over from Nov to Jan and May; Fruit from Nov to Apr; Nothing from Jan to Sep. Peak levels at 86% in Oct. Historically recorded as flowering from Sep to Nov.



**Height** (980 records): 93% 0-0.2 m tall, 7% 0.2-1 m tall.

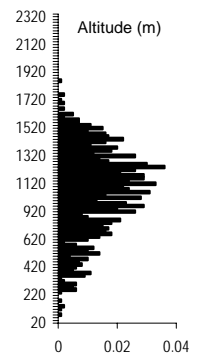
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (979 records): 100% inland - further than 2 km from coast.

**Altitude** (979 records): 60 - 1760 m; 740 *lq* - 980 *med* - 1140 *uq*m.

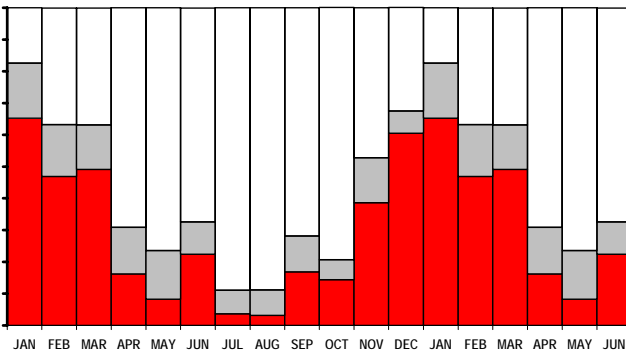


**Landform** (975 records): 71% deep soil, 24% shallow soil, 5% rocky outcrops.

**Slope** (970 records): 49% gentle incline, 27% steep incline, 14% platform, 5% hill top, 5% valley bottom.

**Aspect** (820 records): 29% East, 29% West, 24% South, 18% North.

**Growth** (965 records with: Jan 46, Feb 49, Mar 57, Apr 68, May 72, Jun 49, Jul 27, Aug 125, Sep 142, Oct 160, Nov 127, Dec 43): Much from Nov to Mar and Jun; Rare not significant; None from Feb to Dec. Peak levels at 83% in Jan.

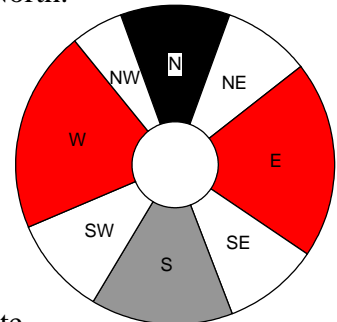


**Soil Type** (969 records): 53% sandy, 21% gravelly, 15% loamy, 8% rocky, 2% clayey.

**Soil Colour** (968 records): 52% brown, 30% grey, 7% white, 5% orange, 4% yellow, 1% red.

**Geology** (961 records): 85% sandstone, 13% shale, 1% Tertiary sands.

**Vegetation** (976 records): 98% shrubland.



**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 4 464 km<sup>2</sup> with 23% conserved and 14% lost; **Occupancy:** 917 km<sup>2</sup> with 33% conserved and 9% lost. **Fragmentation index:** 17%.

**Nature Reserves** (979 records): 43% in nature reserves.

**Habitat destruction** (958 records): 93% extensive natural habitat, 4% islands, 2% naturally linear habitats.

**Alien Invasive Species** (926 records): 77% none, 18% *Pinus*, 2% Fabaceae (chiefly alien *Acacia*), 2% *Hakea*.

**Alien Density** (925 records): 77% alien-free, 19% sparse, 3% abundant.

**Cultivation & Utilization:**

**Seedlings** (357 records): Absent in 94%: fewer seedlings than prefire adults in 7 cases, and more in 3 cases. Seedlings found in Jan (4), Sep, Oct (2), Nov (2) and Dec.

**Fire Survival** (101 records): 91% resprouted from underground boles, 6% survived by seedlings only, 3% escaped fires in fire-safe areas.

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

**Picking** (622 records): 100% no sign of picking.

**Cultivation Status:** Plantings - 1 record.

**Atlassers Notes:**

Very hairy! (AGR96052405); We had a problem whole day with *S. cygnea* - *effusa* having resprouting mode & hairy stems gizz more like *effusa* but resprouting supposed to be diagnostic, leaves grey not green, persistently sparse hairy & branches diffuse - not forming dense mat; but branches - except some central and young are flat on the ground - like *S. cygnea*! (AGRY0030101); Bole present! (AGRY0030103); More like *S. cygnea* than *S. effusa* - but not clear cut at all! (AGRY0030104-7); Not clear cut at all! About half the plants apparently with bole, some creeping some ranking, no difference between them in stem and leaves (AGRY0030115); Very hairy but definitely resprouting from a bole! ! (AGRY1022110); Very hairy but definitely a resprouter forming flat mats - despite the hairs this is not *S. effusa* in GISS (AGRY2121511); At last a pure form which undoubtedly is *S. cygnea* - in a patch with *S. effusa*-like ones atlassed under that species - still not sure how good the difference is however (AGRY3112616); Young growth is sparsely hairy and rapidly fugacious (JAT96041903-7); Some hairs are evident on this population

(MAJ99092401); Slightly hairy but GISS like *S. cygnea* and resprouting (WMPY1111704, WMPY1111801); Leaf much smaller than typical. (JAT94040101);

At least 2 m across! (AKS94091403);

Second flowering for the season - old heads on plants (AGR99092415);

Lots of young in an open patch of old field - an early recruiter into Slangbos veld in wasteland (AGR99092403);

Numerous Dead (GEDY0112309);

**Confusing Species:** Not very easy to distinguish from *S. effusa*, especially in the Dasklip Pass to Groot Winterhoek area - possibly confounded by hybridization noted in the area between *S. acrocarpa* and *S. cygnea*. A few typographical errors (*S. cyanoides*) noted.

Records of identification queries = 74.

Records of corrected identification queries = 34.

**Variation and Taxonomy:** Add.

**Distribution:** Add.

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*Serruria dodii* Phill. & Hutch. 1912  
Hex River Spiderhead

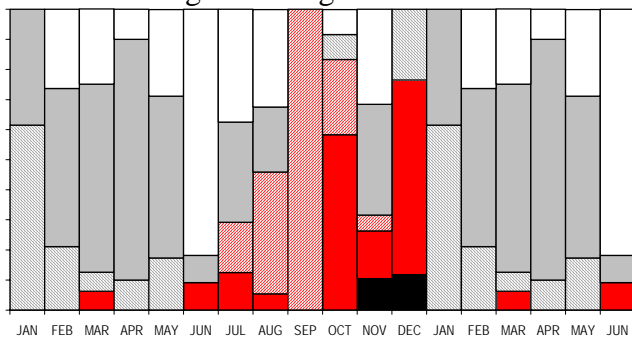
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**237 Records**

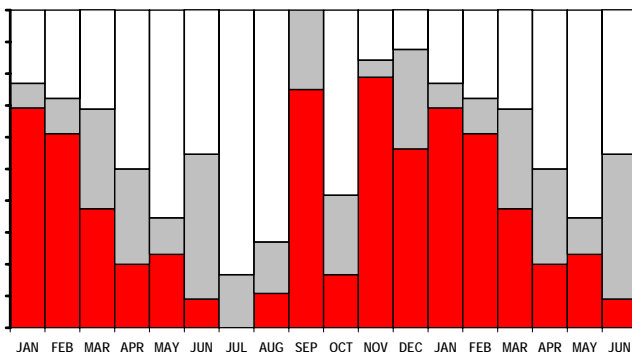
**Population** (236 records): 32% Common, 52% Frequent, 15% Rare.

**Dispersion** (226 records): 67% variable, 31% clumped, 2% widespread.

**Flowering** (234 records with: Jan 13, Feb 19, Mar 16, Apr 10, May 52, Jun 11, Jul 24, Aug 37, Sep 4, Oct 12, Nov 19, Dec 17): Buds from Aug to Oct; Flowering from Oct and Dec; Peak Flowering not significant; Over from Dec to Feb; Fruit from Jan to May and Jul to Aug and Nov; Nothing from Feb to Mar and May to Aug and Nov 32. Peak levels at 100% in Dec. Historically recorded as flowering from Aug to Nov.



**Growth** (232 records with: Jan 13, Feb 18, Mar 16, Apr 10, May 52, Jun 11, Jul 24, Aug 37, Sep 4, Oct 12, Nov 19, Dec 16): Much from Nov to May; Rare from Mar to Apr, Jun, Sep to Oct and Dec; None from Jan to Aug and Oct. Peak levels unreliable: probably at 88% in Dec.



**Seedlings** (100 records): Absent in 94%; fewer seedlings than prefire adults in 1 case, and more in 2 cases. Seedlings found in Jan and Sep (2).

**Fire Survival** (40 records): 98% survived by seedlings only, 3% eliminated from the area by fires.

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



**Height** (237 records): 3% 0-0.2 m tall, 89% 0.2-1 m tall, 8% 1-2 m tall.

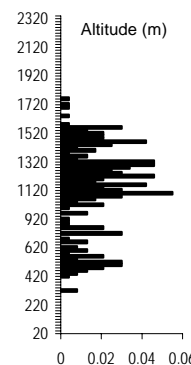
**Pollinators** (3 records): 33% bees or wasps, 33% flies, 33% beetles.

**Detailed Pollinators** (2 records): Wasp (unspecified), Monkey Beetle.

**Habitat:**

**Distance to Ocean** (237 records): 100% inland - further than 2 km from coast.

**Altitude** (237 records): 300 - 1660 m; 840<sub>lq</sub> - 1060<sub>med</sub> - 1200<sub>uq</sub>m.



**Landform** (236 records): 54% deep soil, 44% shallow soil, 1% rocky outcrops.

**Slope** (235 records): 51% gentle incline, 37% steep incline, 6% platform, 4% hill top.

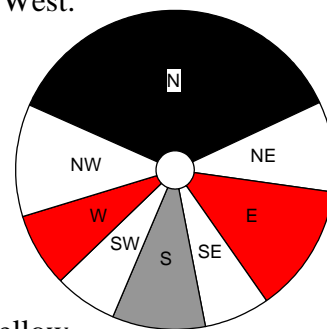
**Aspect** (211 records): 47% North, 21% East, 17% South, 15% West.

**Soil Type** (229 records):

45% sandy, 19% rocky, 18% loamy, 17% gravelly.

**Soil Colour** (233 records):

57% grey, 33% brown, 4% orange, 3% yellow, 3% red.



**Geology** (232 records): 93% sandstone, 6% shale, 1% silcrete or ferricrete.

**Vegetation** (233 records): 100% shrubland.

**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 1 066 km<sup>2</sup> with 17% conserved and 6% lost; **Occupancy:** 249 km<sup>2</sup> with 24% conserved and 3% lost. **Fragmentation index:** 16%.

**Nature Reserves** (237 records): 20% in nature reserves.

**Habitat destruction** (232 records): 96% extensive natural habitat, 3% islands.

**Alien Invasive Species** (228 records):

84% none, 7% *Pinus*, 5% *Hakea*, 4% Fabaceae (chiefly alien *Acacia*).

**Alien Density** (228 records): 84% alien-free, 15% sparse.

**Cultivation & Utilization:**

**Picking** (180 records): 100% no sign of picking.



**Cultivation Status:** No noted cultivation.  
**Witch's Broom Infestation:** 1 record (0.4%).

**Atlassers Notes:**

Most are single - stemmed but several are  
resprouting from rootstock - look the same!  
(WIJ97042607);

Up to 1800 m - single stemmed plants  
(NAH92051601);

I maintain that these were resprouting which is  
of course not what they should be doing - but  
the giss is definitely this species  
(NGF99060605);

Very stressed (WMP99032002);

**Confusing Species:** Mainly confused with *S. pedunculata* which has spreading hairs. Also single misidentifications with *S. acrocarpa* (= *S. "ludwigii"* - a resprouter) and *S. fasciflora* (with multiple headlets).

Records of identification queries = 20.

Records of corrected identification queries = 6.

**Variation and Taxonomy:** Add.

**Distribution:** Add.

INCLUDEPICTURE

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## *Serruria effusa* Rourke 1990 Candelabra Spiderhead

**Other Common Names:** Spreading Spiderhead.

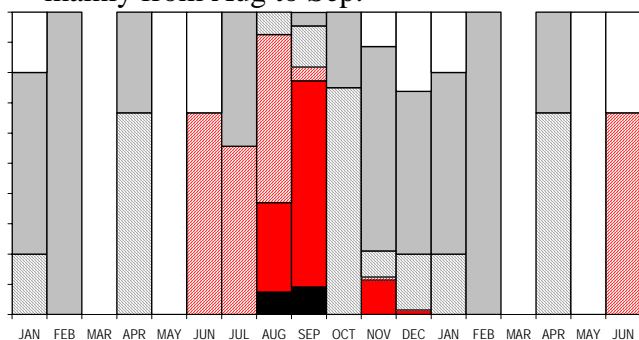
**Other Scientific Names:** None.

### 255 Records

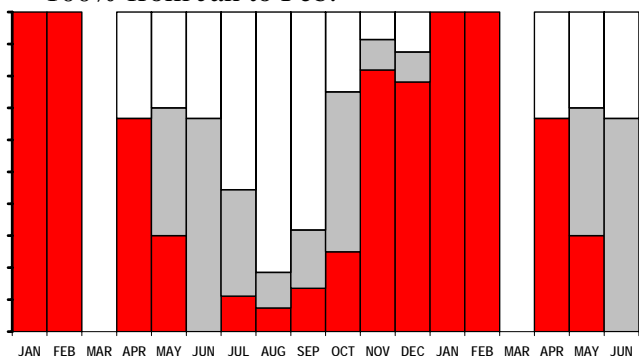
**Population** (254 records): 24% Common, 48% Frequent, 28% Rare.

**Dispersion** (218 records): 76% variable, 21% clumped, 2% widespread.

**Flowering** (254 records with: Jan 5, Feb 1, Mar 0, Apr 3, May 10, Jun 3, Jul 9, Aug 27, Sep 22, Oct 4, Nov 105, Dec 65): Buds from Jun to Aug; Flowering from Aug to Sep; Peak Flowering not significant; Over from Jan, Apr and Oct; Fruit from Oct to Apr and Jul; Nothing from Dec to Jan and May to Jun. Peak levels at 100% in Aug. Historically recorded as flowering from Jul to Oct, mainly from Aug to Sep.



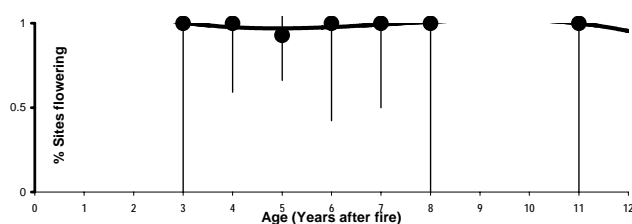
**Growth** (253 records with: Jan 5, Feb 1, Mar 0, Apr 3, May 10, Jun 3, Jul 9, Aug 27, Sep 22, Oct 4, Nov 105, Dec 64): Much from Oct to May; Rare from May to Jul and Oct; None from Apr to Oct. Peak levels unreliable at 100% from Jan to Feb.



**Seedlings** (95 records): All without any seedlings present.

**Fire Survival** (39 records): 90% resprouted from underground boles, 10% survived by seedlings only.

**Age to first flowering:** First flowers recorded at 100% at 1 year.



**Height** (254 records): 34% 0-0.2 m tall, 64% 0.2-1 m tall, 2% 1-2 m tall.

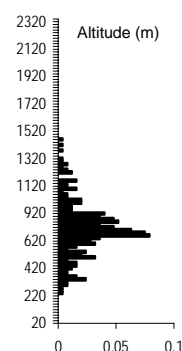
**Pollinators** (4 records): 50% bees or wasps, 50% beetles.

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

### Habitat:

**Distance to Ocean** (251 records): 100% inland - further than 2 km from coast.

**Altitude** (251 records): 220 - 1360 m; 580<sub>lq</sub> - 680<sub>med</sub> - 760<sub>uq</sub> m.



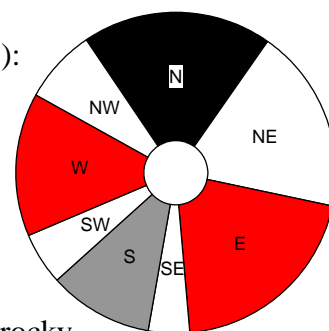
**Landform** (250 records): 76% deep soil, 22% shallow soil, 2% rocky outcrops.

**Slope** (250 records): 68% gentle incline, 14% steep incline,

11% hill top, 5% platform.

**Aspect** (214 records):

35% East, 30% North, 20% West, 15% South.



**Soil Type** (249 records): 74% sandy, 18% loamy, 6% gravelly, 1% rocky.

**Soil Colour** (250 records): 62% brown, 17% grey, 8% yellow, 8% orange, 3% white, 2% red.

**Geology** (246 records): 89% sandstone, 10% shale.

**Vegetation** (250 records): 98% shrubland, 2% agricultural lands.

### Conservation Status and Threat:

**Red Data List Status:** Near Threatened A3c.

Occurrence (Fynbos): 2 610 km<sup>2</sup> with 15% conserved and 18% lost; Occupancy: 289 km<sup>2</sup> with 12% conserved and 9% lost. Fragmentation index: 9%.

**Nature Reserves** (251 records): 12% in nature reserves - inadequately conserved.

**Habitat destruction** (249 records): 85% extensive natural habitat, 14% islands, 1% naturally fragmented habitats.

**Alien Invasive Species** (238 records): 84% none, 8% Fabaceae (chiefly alien *Acacia*), 7% *Pinus*, 1% Myrtaceae.

**Alien Density** (238 records): 84% alien-free,  
16% sparse.

**Cultivation & Utilization:**

**Picking** (167 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:**

All resprouting 0.2 m tall (NAHY1071401+3); This is *S. effusa* (hairy stems), but some plants are resprouting! (AGRY3112508); Definitely not creeping like *S. cygnea* - also hairy, but many plants resprouting from indistinct boles (AGRY3112510); Like *S. cygnea* but definitely hairy (AGRY3112612); Like *S. cygnea* but leaves very hairy and plant too ramblingly (AGRY3112613); Still not happy with I.D. but too hairy for *S. cygnea* (AGRY3112615); Only the iffy form present: hairy leaves and resprouting (AGRY3112617); 1 m tall looping but resprouting! No persistent hairs but looping and grey! (AGRY3112716);

Atlased as *S. "piketbergensis"* but atlaser changed to *S. effusa*: rootstock; Herbarium Specimen collected plus sample for genetic analysis (Helme 2005) (NAHY1071501);

Looked diseased ['scorched' but no fire] saw the same thing elsewhere (AWA97090503); Not found in this repeat - result of severe drought? (EAH99092501);

Occurs on pocket of deeper sand (PMR98120610);

**Confusing Species:** Most readily confused (70% of cases) with *S. cygnea*, from which it differs primarily in being single stemmed and having hairy stems, and being a grey-leaved sprawler, not a bright green mat. However, in areas these characters were inconsistent and plants with an obvious *S. effusa* giss were found to be resprouting – in most cases hybridization was not probable. A few cases between Dasklip Pass and Porterville may have been hybrids between *S. cygnea* and *S. acrocarpa*, but these generally had spreading perianth hairs. Less frequently confused with *S. "piketbergensis"* which has a compound flowerhead and resprouts. A single instance of mistaken with *S. confragosa*.

Records of identification queries = 34.

Records of corrected identification queries = 23.

**Variation and Taxonomy:** Variable with some specimens retaining hairs on leaves and stems and others shedding them shortly after hardening. Plants may ramble over a large area in old veld, and look quite different to young plants.

**Distribution:** Add.

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*Serruria flava* Meisn. 1856  
Wuppertal Spiderhead

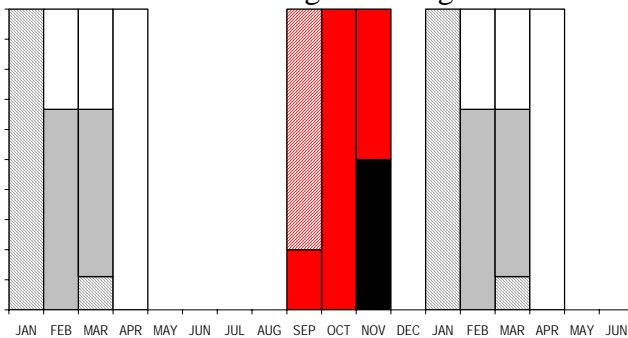
**Other Common Names:** Yellow Spiderhead.  
**Other Scientific Names:** None.

**22 Records**

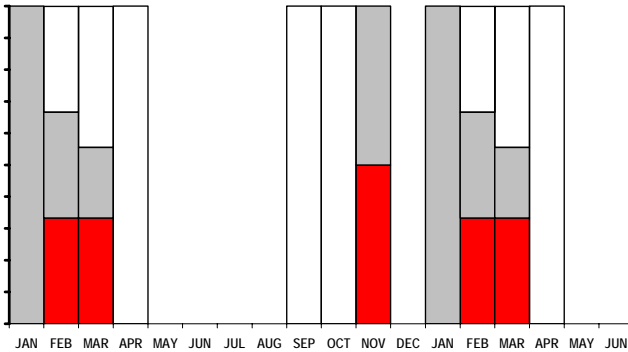
**Population** (22 records): 14% Common, 50% Frequent, 36% Rare.

**Dispersion** (21 records): 57% variable, 43% clumped.

**Flowering** (22 records with: Jan 1, Feb 3, Mar 9, Apr 1, May 0, Jun 0, Jul 0, Aug 0, Sep 5, Oct 1, Nov 2, Dec 0): Buds from Sep; Flowering from Sep to Nov; Peak Flowering from Nov; Over from Jan; Fruit from Feb to Mar; Nothing from Feb to Apr. Peak levels unreliable at 100% from Nov. Historically recorded as flowering from Aug to Dec.



**Growth** (22 records with: Jan 1, Feb 3, Mar 9, Apr 1, May 0, Jun 0, Jul 0, Aug 0, Sep 5, Oct 1, Nov 2, Dec 0): Much from Feb to Mar and Nov; Rare from Nov to Mar; None from Feb to Oct. Peak levels unreliable at 100% from Nov to Jan.



**Seedlings** (12 records): All without any seedlings present.

**Fire Survival** (2 records): 100% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 100% at 6 years, no data from younger veld.



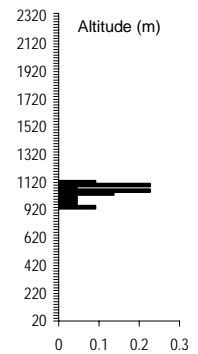
**Height** (22 records): 5% 0-0.2 m tall, 95% 0.2-1 m tall.

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

**Habitat:**

**Distance to Ocean** (22 records): 100% inland - further than 2 km from coast.

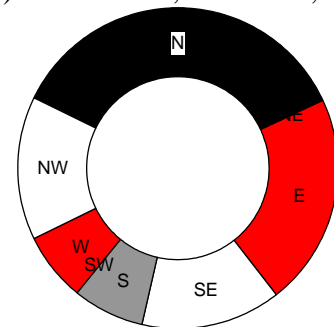
**Altitude** (22 records): 820 - 1020 m; 900 *lq* - 960 *med* - 960 *uq*m.



**Landform** (21 records): 67% deep soil, 29% shallow soil, 5% rocky outcrops.

**Slope** (22 records): 59% gentle incline, 23% hill top, 14% platform, 5% steep incline.

**Aspect** (14 records): 43% North, 29% East, 14% South, 14% West.



**Soil Type** (21 records): 57% sandy, 19% gravelly, 14% rocky, 10% loamy.

**Soil Colour** (21 records): 38% brown, 33% grey, 24% white, 5% yellow.

**Geology** (21 records): 90% sandstone, 10% shale.

**Vegetation** (22 records): 100% shrubland.

**Conservation Status and Threat:**

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

**Occurrence (Fynbos):** 9 km<sup>2</sup> with 2% conserved and 2% lost; **Occupancy:** 12 km<sup>2</sup> with 2% conserved and 2% lost. Fragmentation index meaningless.

**Nature Reserves** (22 records): 0% in nature reserves - unconserved.

**Habitat destruction** (22 records): 91% extensive natural habitat, 5% islands, 5% naturally linear habitats.

**Alien Invasive Species** (21 records): 100% none.

**Alien Density** (21 records): 100% alien-free.

**Cultivation & Utilization:**

**Picking** (19 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Buds on lower stems like *L. salignum* – could this be a resprouter? (AGR97032202); Multistemmed from ground level - a resprouter? (AGR97032203); Some plants killed by fire others seem to resprout from bole (NAH94011403);

**Confusing Species:** None noted.

**Variation and Taxonomy:** No variation known. However, the resprouting habit should be investigated.

**Distribution:** Add.

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*Serruria fucifolia* Salisb. ex Kn. 1809  
**Northern Spiderhead**  
*Sandveldspinnepkopbos*

**Other Common Names:** Fucus-leaf Serruria, *Kleinspinnekopbos*.

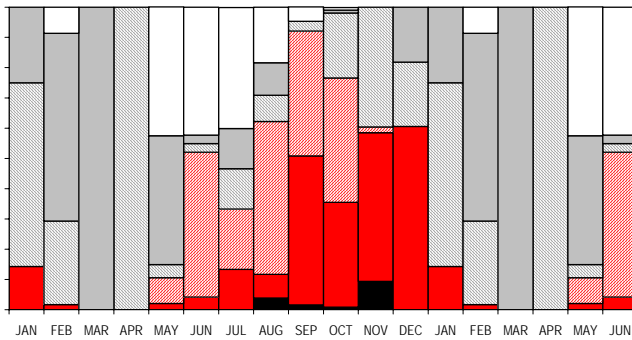
**Other Scientific Names:** *elevata* R.Br 1810, *hirsuta* Buek ex Drege 1844, *subumbellata* Buek ex Drege 1844, *vestita* Buek ex Drege 1844.

**583 Records**

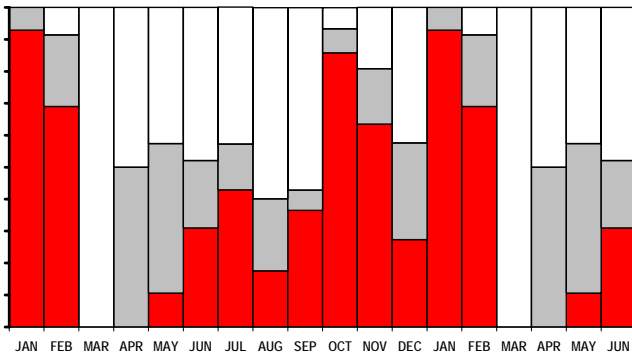
**Population** (583 records): 23% Common, 56% Frequent, 21% Rare.

**Dispersion** (526 records): 85% variable, 11% clumped, 4% widespread, 0.4% evenly distributed.

**Flowering** (581 records with: Jan 28, Feb 58, Mar 1, Apr 2, May 47, Jun 71, Jul 15, Aug 103, Sep 63, Oct 107, Nov 53, Dec 33): Buds from Jun to Oct; Flowering from Sep to Dec; Peak Flowering not significant; Over from Oct to Apr; Fruit from Jan to May; Nothing from May to Jul. Peak levels at 100% in Nov. Historically recorded as flowering from Jul to Oct.



**Growth** (5577 records with: Jan 28, Feb 58, Mar 1, Apr 2, May 47, Jun 71, Jul 14, Aug 102, Sep 63, Oct 106, Nov 52, Dec 33): Much from Sep to Feb and Jun to Jul; Rare from Feb, Apr to Jun, Aug and Dec; None from Mar to Sep and Dec. Peak levels at 100% in Jan, but with a secondary peak at 93% in Oct.



**Seedlings** (263 records): Absent in 99%; fewer seedlings than prefire adults in 1 case. Seedlings found in Jun.

**Fire Survival** (16 records): 94% survived by seedlings only, 6% resprouted from aerial trunks.

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



**Height** (579 records): 45% 0.2-1 m tall, 54% 1-2 m tall.

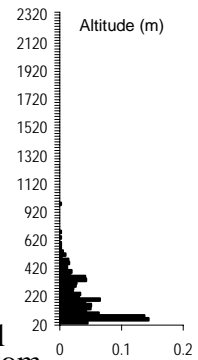
**Pollinators** (8 records): 50% bees or wasps, 38% butterflies or moths, 13% flies.

**Detailed Pollinators** (4 records): Wasp (unspecified), Honey Bee, Butterfly (unspecified), Blues Butterfly.

**Habitat:**

**Distance to Ocean** (582 records): 100% inland - further than 2 km from coast.

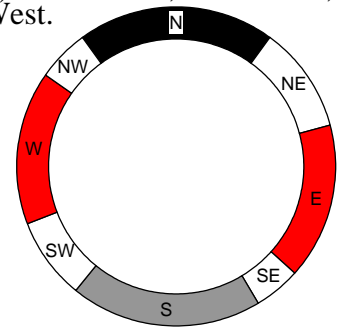
**Altitude** (583 records): 20 - 880 m; 60 *lq* - 100 *med* - 180 *uq*m.



**Landform** (582 records): 100% deep soil.

**Slope** (579 records): 47% gentle incline, 43% platform, 6% hill top, 2% dunes, 1% valley bottom.

**Aspect** (373 records): 29% North, 25% South, 23% East, 23% West.



**Soil Type** (580 records): 95% sandy, 5% loamy.

**Soil Colour** (579 records): 26% brown, 24% white, 17% yellow, 13% grey, 12% orange, 8% red.

**Geology** (559 records): 51% Tertiary sands, 46% sandstone, 3% shale.

**Vegetation** (580 records): 99% shrubland, 1% agricultural lands.

**Conservation Status and Threat:**

**Red Data List Status:** Endangered A4c. Occurrence (Fynbos): 4 825 km<sup>2</sup> with 0% conserved and 41% lost; Occupancy: 689 km<sup>2</sup> with 0% conserved and 45% lost. Fragmentation index: 13%.

**Nature Reserves** (583 records): 1% in nature reserves - unconserved.

**Habitat destruction** (577 records): 57% extensive natural habitat, 34% islands,

7% road verges, 2% naturally fragmented habitats.

**Alien Invasive Species** (575 records):

72% Fabaceae (chiefly alien *Acacia*),  
24% none, 2% *Pinus*, 1% Myrtaceae.

**Alien Density** (574 records): 24% alien-free,  
58% sparse, 14% abundant, 4% dense.

**Cultivation & Utilization:**

**Picking** (492 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:**

Many even of over 2 m tall (SMRY0062211);  
According to Vogts it flowers in spring - these flowers were very dead (JAT95082401);  
Many buds and flowers as well as in cone - very attractive large bushes. They should have been in cone in Dec - a dry autumn or wet spring ? (SMR98120201);

Some were resprouting from base (WIJ95082407, WIJ95101505);  
One plant had galls on it (NGFY0062216);  
Restricted to road verge; not in surrounding farmland perhaps due to grazing? (NAH92081505);

**Confusing Species:** Rarely confused, but odd records with *S. aitonii* (much shorter, neater leaves) and *S. decipiens*.

Records of identification queries = 12.

Records of corrected identification queries = 3.

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

**Distribution:** Add.

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## *Serruria gremialis* Rourke 1994 Riviersonderend Spiderhead

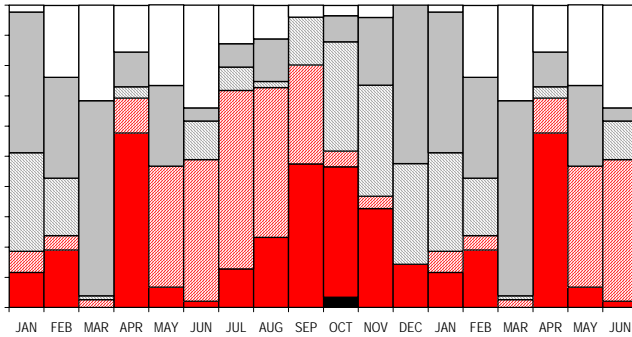
**Other Common Names:** None known.  
**Other Scientific Names:** *jonaskopii* *nomen nudum* (Protea Atlas).

### 620 Records

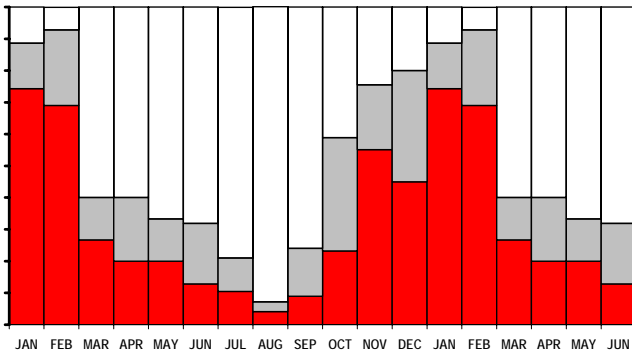
**Population** (615 records): 30% Common, 55% Frequent, 14% Rare.

**Dispersion** (570 records): 78% variable, 19% clumped, 2% widespread.

**Flowering** (616 records with: Jan 43, Feb 42, Mar 76, Apr 26, May 15, Jun 47, Jul 39, Aug 99, Sep 101, Oct 58, Nov 49, Dec 21): Buds from May to Sep; Flowering from Apr and Aug to Nov; Peak Flowering not significant; Over from Oct to Jan; Fruit from Nov to Mar and May; Nothing from Feb to Mar and May to Jun. Peak levels at 96% in Sep. Historically recorded as flowering from Jul to Feb.



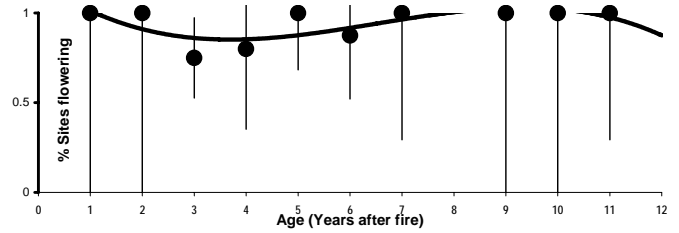
**Growth** (600 records with: Jan 35, Feb 42, Mar 75, Apr 25, May 15, Jun 47, Jul 38, Aug 98, Sep 100, Oct 56, Nov 49, Dec 20): Much from Oct to May; Rare from Feb, Apr, and Oct to Dec; None from Mar to Dec. Peak levels at 93% in Feb.



**Seedlings** (205 records): All without any seedlings present.

**Fire Survival** (42 records): 100% resprouted from underground boles.

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



**Height** (617 records): 21% 0-0.2 m tall, 78% 0.2-1 m tall.

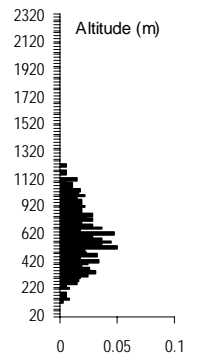
**Pollinators** (4 records): 50% beetles, 25% bees or wasps, 25% flies.

**Detailed Pollinators:** No additional data.

### Habitat:

**Distance to Ocean** (618 records): 100% inland - further than 2 km from coast.

**Altitude** (618 records): 60 - 1140 m; 420<sub>lq</sub> - 580<sub>med</sub> - 720<sub>uq</sub>m.



**Landform** (615 records): 82% deep soil, 16% shallow soil, 2% rocky outcrops.

**Slope** (615 records): 62% gentle incline, 29% steep incline, 5% hill top, 3% platform.

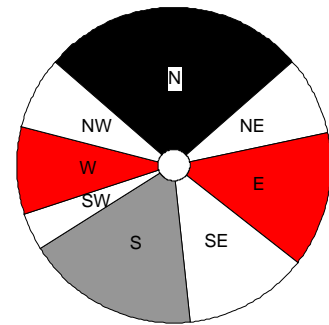
**Aspect** (565 records): 35% North, 27% South, 24% East, 14% West.

**Soil Type** (611 records): 47% sandy, 32% loamy, 13% gravelly, 5% rocky, 3% clayey.

**Soil Colour** (605 records): 45% grey, 42% brown, 5% white, 4% orange, 1% yellow.

**Geology** (586 records): 82% sandstone, 17% shale, 1% silcrete or ferricrete.

**Vegetation** (617 records): 98% shrubland, 1% plantations.



### Conservation Status and Threat:

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

**Occurrence** (Fynbos): 1 800 km<sup>2</sup> with 26% conserved and 16% lost; **Occupancy:** 589 km<sup>2</sup> with 17% conserved and 23% lost. **Fragmentation index:** 14%.

**Nature Reserves** (618 records): 16% in nature reserves - inadequately conserved.

**Habitat destruction** (611 records): 92% extensive natural habitat, 7% islands.

**Alien Invasive Species** (605 records): 35% *Pinus*, 32% none, 25% *Hakea*, 6% Fabaceae (chiefly alien *Acacia*), 2% Myrtaceae.

**Alien Density** (603 records): 32% alien-free, 56% sparse, 11% abundant, 1% dense.

### Cultivation & Utilization:

**Picking** (473 records): 100% no sign of picking, 0.4% lightly picked.



**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Carpets of *S. gremialis* (AWA97100704);  
Occasional non-resprouting plants  
(WIJ94021904);

Style Not Hairy! - Strange! (GED99102401);  
The Single plant Was Dying (NGFY0080912);  
Only 2 Plants Were Found On South Verge Of  
Jeeprack Where Vegetation Is Taller Than  
Adjacent Patches (SHR93100302);

**Confusing Species:** Confused with *S.*  
*“ludwigii”* (73% of corrected errors), there  
being no official key or diagnostic  
differences. Officially atlassers were  
supposed to note the colour (yellow  
*ludwigii*, vs silver *gremialis*), stigma shape  
(capitate vs spindle-shaped), and branch  
orientation (semi-erect *ludwigii* vs

sprawling *gremialis*). Other errors were with  
*S. acrocarpa* (single stemmed, with adnate  
hairs on the tepals, 13%) and *S. pedunculata*  
(single stemmed, with spreading hairs on the  
tepals; 8%), and with *S. fasciflora* (with  
straight styles and single stemmed).  
Records of identification queries = 79.  
Records of corrected identification queries = 40.

**Variation and Taxonomy:** No variation noted,  
but in the east (of Stormvleiport)  
intermediates with some *S. ludwigii* features  
occur.

**Distribution:** Add.

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*Serruria incrassata* Meisn. 1856  
Silver-paw Spiderhead

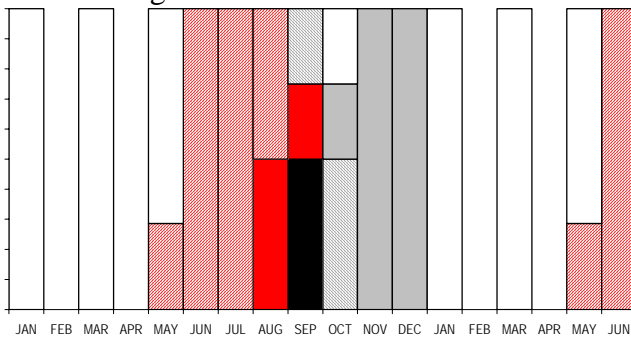
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**30 Records**

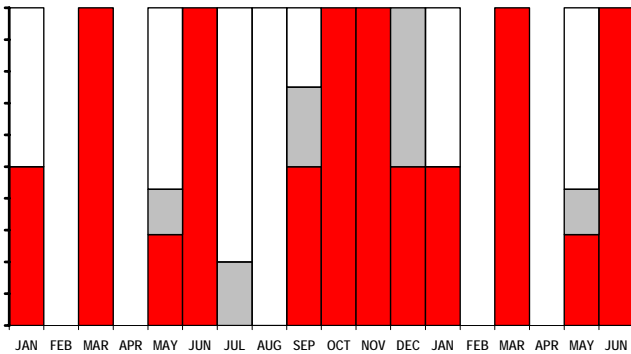
**Population** (30 records): 7% Common, 77% Frequent, 17% Rare.

**Dispersion** (30 records): 87% variable, 10% clumped, 3% evenly distributed.

**Flowering** (30 records with: Jan 2, Feb 0, Mar 1, Apr 0, May 7, Jun 2, Jul 5, Aug 2, Sep 4, Oct 4, Nov 1, Dec 2): Buds from May to Aug; Flowering from Aug to Sep; Peak Flowering from Sep; Over from Sep to Oct; Fruit from Oct to Dec; Nothing from Jan to May and Oct. Peak levels unreliable at 100% in Sep. Historically recorded as flowering from Jul to Oct.



**Growth** (30 records with: Jan 2, Feb 0, Mar 1, Apr 0, May 7, Jun 2, Jul 5, Aug 2, Sep 4, Oct 4, Nov 1, Dec 2): Much from Sep to Jun; Rare from Jul, Sep and Dec; None from Jan, May and Jul to Sep. Peak levels unreliable at 100% from Oct to Nov.



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

**Fire Survival** (3 records): 100% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 100% at 7 years, no records from younger veld.



**Height** (30 records): 60% 0-0.2 m tall, 40% 0.2-1 m tall.

**Pollinators** (2 records): 100% beetles.  
**Detailed Pollinators** (1 record): Ladybird Beetle.

**Habitat:**

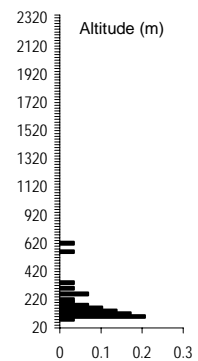
**Distance to Ocean** (29 records): 100% inland - further than 2 km from coast.

**Altitude** (29 records): 60 - 620 m; 100<sub>lq</sub> - 120<sub>med</sub> - 120<sub>uq</sub>m.

**Landform** (29 records): 93% deep soil, 7% shallow soil.

**Slope** (29 records): 62% gentle incline, 31% platform, 3% steep incline, 3% hill top.

**Aspect** (25 records): 54% West, 16% North, 16% South, 14% East.

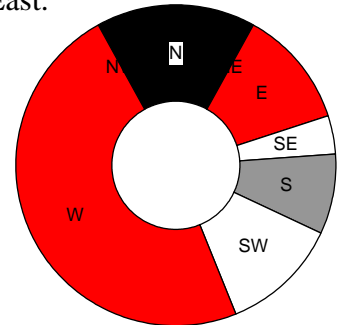


**Soil Type** (29 records): 45% loamy, 31% sandy, 21% clayey, 3% peaty.

**Soil Colour** (29 records): 69% brown, 28% grey, 3% red.

**Geology** (26 records): 46% shale, 27% sandstone, 23% granite, 4% silcrete or ferricrete.

**Vegetation** (29 records): 100% shrubland.



**Conservation Status and Threat:**

**Red Data List Status:** Endangered A2c. - check why not CR?

**Occurrence** (total): 422 km<sup>2</sup> with 0% conserved and 87% lost; **Occupancy:** 29 km<sup>2</sup> with 2% conserved and 79% lost. Fragmentation index: 7%.

**Nature Reserves** (29 records): 21% in nature reserves.

**Habitat destruction** (29 records): 59% extensive natural habitat, 34% islands, 7% corridors.

**Alien Invasive Species** (29 records): 66% Fabaceae (chiefly alien *Acacia*), 21% none, 7% *Pinus*, 3% Myrtaceae, 3% annual alien grasses.

**Alien Density** (29 records): 21% alien-free, 72% sparse, 7% abundant.

**Cultivation & Utilization:**

**Picking** (26 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

The plants at this site were previously atlassed as *S. incrassata*, but Rourke says it is *S. scoparia*. This population has quite silvery leaves unlike the *S. scoparia* population at Hermon (NGFY1092802); Identification based on habit and lack of diagnostics even though old heads present (SMR99102703);

Appears to have been nibbled: buds off especially along side gravel road (ASP94072704);

Grazed (AGR97061201, ASP94072711; LYM96051601);

About 200 plants very healthy – biggest population! (AGRY6010505); About 50

plants (DJL99102704); Almost 100 plants (DJL99102705);

Pollinator: Black Beetles (WIJ97090604);

**Confusing Species:**

Confused with *S. scoparia*, especially when not in flower, but *S. scoparia* has yellow not silver flowerheads, and occurs on sands not shales. Records of identification queries = 6. Records of corrected identification queries = 1.

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

**Distribution:** Add.

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## *Serruria "ludwigii"* Common Rootstock Spiderhead

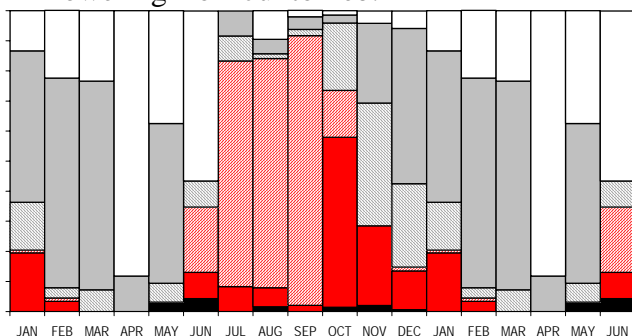
**Other Common Names:** *Spinnekopbos*.  
**Other Scientific Names:** None.

### 879 Records

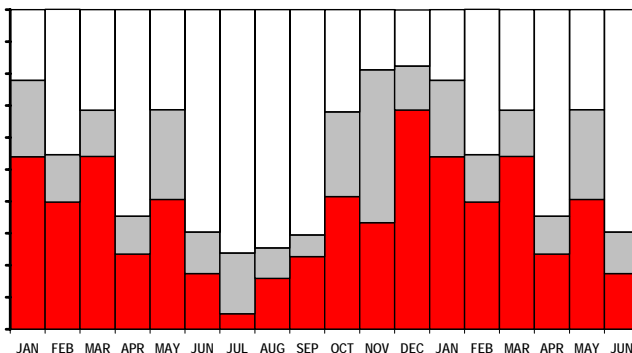
**Population** (874 records): 37% Common, 51% Frequent, 11% Rare.

**Dispersion** (830 records): 76% variable, 19% clumped, 4% widespread.

**Flowering** (871 records with: Jan 113, Feb 89, Mar 111, Apr 17, May 32, Jun 23, Jul 24, Aug 63, Sep 48, Oct 147, Nov 49, Dec 155): Buds from Jun to Sep; Flowering from Oct to Nov; Peak Flowering not significant; Over from Oct to Dec; Fruit from Nov to Mar and May; Nothing from Feb to Jun. Peak levels at 96% in Oct. Historically recorded as flowering from Jul to Feb.



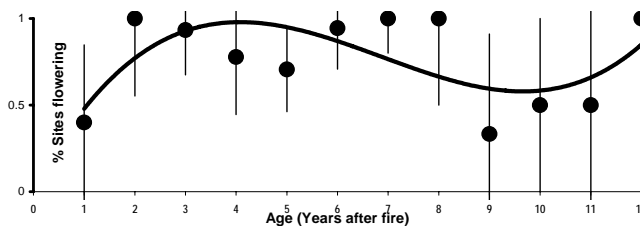
**Growth** (860 records with: Jan 113, Feb 88, Mar 111, Apr 17, May 32, Jun 23, Jul 21, Aug 63, Sep 44, Oct 147, Nov 48, Dec 153): Much from Sep to May; Rare from Jan, May, and Oct to Nov; None from Jan to Oct. Peak levels at 82% in Dec.



**Seedlings** (453 records): Absent in 98%; fewer seedlings than prefire adults in 2 cases, and more in 2 cases. Seedlings found in Feb, May (2) and Jun.

**Fire Survival** (77 records): 92% resprouted from underground boles, 4% escaped fires in fire-safe areas, 3% survived by seedlings only, 1% resprouted from aerial trunks.

**Age to first flowering:** First flowers recorded at 1 year, 50% estimated at 1-2 years, and 100% first recorded at 7 years and consistently after 12 years.



**Height** (873 records): 15% 0-0.2 m tall, 84% 0.2-1 m tall.

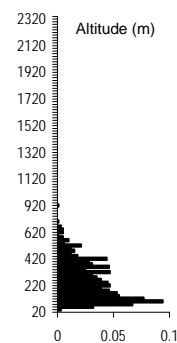
**Pollinators** (17 records): 35% bees or wasps, 29% butterflies or moths, 18% flies, 18% beetles.

**Detailed Pollinators** (7 records): Solitary Bee (2), Moth (unspecified) (2), Honey Bee (2), Monkey Beetle.

### Habitat:

**Distance to Ocean** (868 records): 97% inland - further than 2 km from coast.

**Altitude** (868 records): 20 - 820 m; 100 *lq* - 180 *med* - 280 *uq*m.

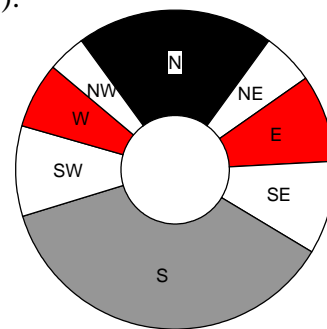


**Landform** (864 records): 86% deep soil, 12% shallow soil, 2% rocky outcrops.

**Slope** (867 records): 52% gentle incline, 20% steep incline, 20% platform, 6% hill top, 2% valley bottom.

**Aspect** (715 records):

47% South,  
25% North,  
16% East,  
13% West.



**Soil Type** (862 records): 36% loamy, 36% sandy, 18% gravelly, 6% clayey, 3% rocky.

**Soil Colour** (859 records): 45% brown, 44% grey, 3% white, 3% orange, 2% black, 2% red.

**Geology** (811 records): 58% sandstone, 14% shale, 14% conglomerate, 7% silcrete or ferricrete, 5% Tertiary sands, 2% limestone.

**Vegetation** (867 records): 98% shrubland, 1% grassland.

### Conservation Status and Threat:

**Red Data List Status:** Near Threatened A2c. Occurrence (Fynbos): 4 643 km<sup>2</sup> with 22% conserved and 12% lost; Occupancy: 594 km<sup>2</sup> with 32% conserved and 25% lost. Fragmentation index: 5%.

**Nature Reserves** (868 records): 45% in nature reserves.

**Habitat destruction** (861 records): 85% extensive natural habitat, 10% islands, 3% naturally linear habitats.

**Alien Invasive Species** (838 records):  
39% none, 37% Fabaceae (chiefly alien  
*Acacia*), 15% *Pinus*, 7% *Hakea*,  
2% Myrtaceae.

**Alien Density** (836 records): 39% alien-free,  
48% sparse, 9% abundant, 3% dense.

**Cultivation & Utilization:**

**Picking** (694 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Much more flowers adjacent swamp at bottom  
of plot (APE92080323);

Heavily grazed (AGRY2052709); Signs of  
grazing (LYM97052204);

Pollinator: green solitary bee (AGRY3102804);

Has vexing odor (see Pan 20: 6,  
SHR93101703);

**Confusing Species:** Originally atlassed as *S.*  
*gremialis* but separated after it was apparent  
that there were two forms. The forms on  
Potberg appear different again, but were not  
further separated. Also confused with *S.*  
*acrocarpa* (single stemmed), *S. rubricaulis*  
(a resprouter, but with multiple flowerheads),

*S. balanocephala* (single stemmed) and *S.*  
*fasciflora* (multiple heads and single  
stemmed).

Records of identification queries = 877.

Records of corrected identification queries =  
151.

**Variation and Taxonomy:** This species is  
included under *S. acrocarpa* in Flora  
Capensis and the lowland forms in the Ruens  
are better known than the typical forms,  
herein considered *S. acrocarpa*. J. Rourke  
proposed the name *ludwigii*, after an  
obscure synonym, and this was used for the  
Protea Atlas.

The forms on Potberg and the flats south as well  
as on the Silcrettes around Potberg has more  
silvery flowers and more lax growth habit  
than the typical forms on the conglomerates  
and silcrettes in the northern Ruens, which  
have an erect habit and yellow flowers.

**Distribution:** Add.

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## *Serruria "ludwigii"* - high altitude form

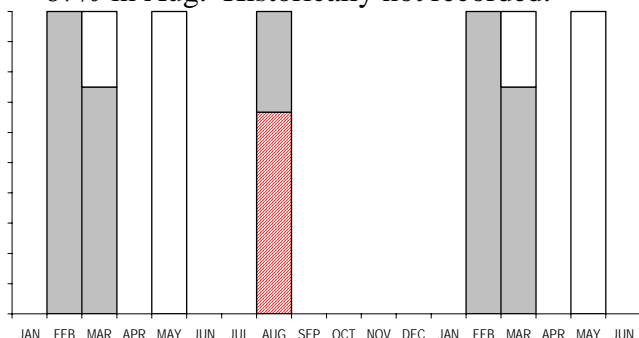
**Other Common Names:** None known.  
**Other Scientific Names:** None.

### 20 Records

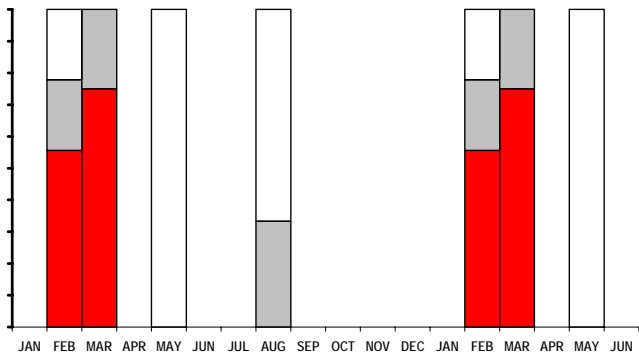
**Population** (20 records): 25% Common, 40% Frequent, 35% Rare.

**Dispersion** (15 records): 60% variable, 40% clumped.

**Flowering** (20 records with: Jan 0, Feb 9, Mar 4, Apr 0, May 4, Jun 0, Jul 0, Aug 3, Sep 0, Oct 0, Nov 0, Dec 0): Buds from Aug; Flowering, Peak Flowering, Over not recorded Fruit from Aug to Mar; Nothing from Mar to May. Peak levels unreliable at 67% in Aug. Historically not recorded.



**Growth** (20 records with: Jan 0, Feb 9, Mar 4, Apr 0, May 4, Jun 0, Jul 0, Aug 3, Sep 0, Oct 0, Nov 0, Dec 0): Much from Feb to Mar; Rare from Feb to Mar and Aug; None from May to Feb. Peak levels unreliable at 100% in Mar.



**Seedlings** (15 records): Absent in 87%; fewer seedlings than prefire adults in 1 case. Seedlings found in Aug.

**Fire Survival** (11 records): 100% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 100% at 4 years.



**Height** (20 records): 5% 0-0.2 m tall, 95% 0.2-1 m tall.

**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

### Habitat:

**Distance to Ocean** (20 records): 100% inland - further than 2 km from coast.

**Altitude** (20 records): 520 - 1200 m; 820<sub>lq</sub> - 920<sub>med</sub> - 920<sub>uq</sub> m.

**Landform** (20 records): 65% deep soil, 35% shallow soil.

**Slope** (20 records): 70% gentle incline, 15% steep incline, 10% platform, 5% hill top.

**Aspect** (16 records): 72% North, 19% East, 9% South.

**Soil Type** (20 records): 50% sandy, 30% loamy, 20% rocky.

**Soil Colour** (20 records): 60% grey, 40% brown.

**Geology** (20 records): 75% sandstone, 25% shale.

**Vegetation** (20 records): 100% shrubland.

### Conservation Status and Threat:

**Red Data List Status:** Near Threatened A2c. Occurrence (Fynbos): 783 km<sup>2</sup> with 20% conserved and 20% lost; Occupancy: 364 km<sup>2</sup> with 13% conserved and 34% lost. Fragmentation index: 22%.

**Nature Reserves** (20 records): 10% in nature reserves - inadequately conserved.

**Habitat destruction** (20 records): 100% extensive natural habitat.

**Alien Invasive Species** (20 records): 60% none, 30% *Hakea*, 10% *Pinus*.

**Alien Density** (20 records): 60% alien-free, 40% sparse.

### Cultivation & Utilization:

**Picking** (16 records): 100% no sign of picking.

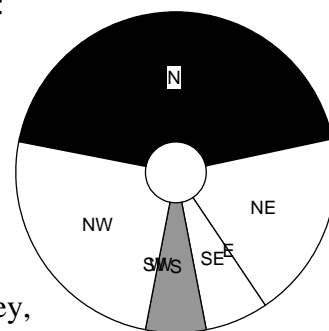
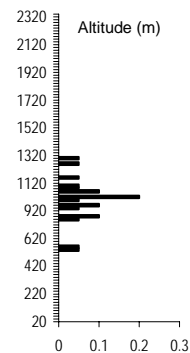
**Cultivation Status:** No noted cultivation.

### Atlassers Notes:

Resprouting with very red stems : Leaves are *S. dodii* (AGR95052403, 04, 06, 07);

Resprouting high altitude form - otherwise indistinguishable from *S. balanocephala* (AGRY1020129, 31; AGRY2031206, 07, 10, 12; AMMY1020204, 07, 08); *S. balanocephala* but is a resprouter! - (AJT95080606; NAH92082910, 13); *S. balanocephala* but is multi-stemmed (SHRY1020103, 04, 09, 16);

On shaley bit at top of ridge on flat areas clear of rocks (AGRY1020129);



**Confusing Species:** This is resprouting in species that should not be resprouting. Records of identification queries = 20.

**Variation and Taxonomy:** This is probably not a good species (or if so a very cryptic one), but a resprouting form of either *S. balanocephala* or *S. dodii*, or something closely related to these. These are often associated with shales and grow within metres of their normal species, but do not appear to have intermediates – plants either a low growing and resprout or tall and single-

stemmed. Although morphologically indistinguishable apart from their habit, they are not readily discernable from the otherwise distinct *S. "ludwigii"* in dried herbarium specimens. This phenomenon requires further research.

**Distribution:** Add.

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*Serruria pedunculata* (Lam.) R.Br. 1791, 1810

**Fan-leaf Spiderhead**

*Silwergrysspinnekopbos*

**Other Common Names:** Artemesia-leaf Serruria, Grey Spiderhead, Peduncled Serruria.

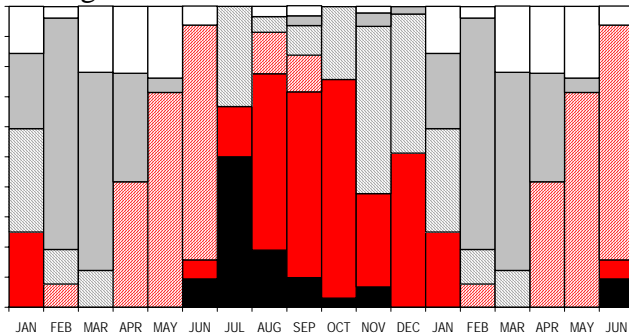
**Other Scientific Names:** *artemisiifolia* Salisb. ex Knight 1809, *glomerata* Andr. 1803, *longipes* Phill & Hutch 1912, *peduncularis* Salisb. ex Knight 1809, *sphaerocephala* (Houtt) 1775

**539 Records**

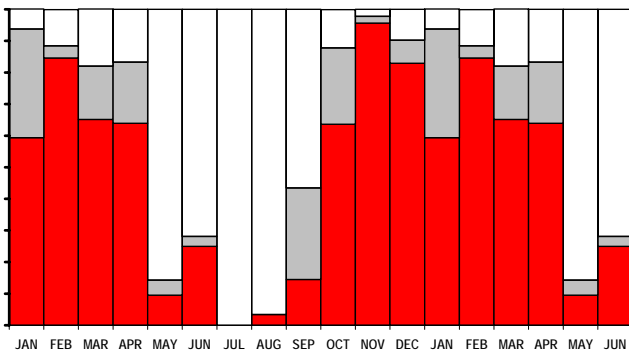
**Population** (538 records): 3% Abundant, 49% Common, 42% Frequent, 7% Rare.

**Dispersion** (513 records): 63% variable, 32% clumped, 3% widespread, 3% evenly distributed.

**Flowering** (535 records with: Jan 32, Feb 26, Mar 82, Apr 36, May 21, Jun 32, Jul 6, Aug 58, Sep 123, Oct 33, Nov 45, Dec 41): Buds from Apr to Jun; Flowering from Aug to Jan; Peak Flowering from Jul; Over from Oct to Jan and Jul; Fruit from Jan to Apr; Nothing from Mar to May. Peak levels at 100% in Oct. Historically recorded as flowering from Aug to Dec.



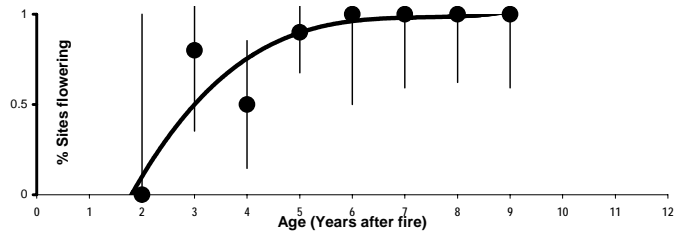
**Growth** (537 records with: Jan 32, Feb 26, Mar 83, Apr 36, May 21, Jun 32, Jul 6, Aug 58, Sep 124, Oct 33, Nov 45, Dec 41): Much from Oct to Apr and Jun; Rare from Jan and Sep to Oct; None from May to Sep. Peak levels at 98% in Nov.



**Seedlings** (285 records): Absent in 94%: fewer seedlings than prefire adults in 8 cases, and more in 1 case. Seedlings found in Jan, Jun (2), Sep (2), Nov (3) and Dec.

**Fire Survival** (46 records): 91% survived by seedlings only, 4% eliminated from the area by fires, 4% escaped fires in fire-safe areas.

**Age to first flowering:** First flowers recorded at 2 years, 50% estimated at 2-3 years, and 100% recorded at 6 years.



**Height** (536 records): 1% 0-0.2 m tall, 83% 0.2-1 m tall, 15% 1-2 m tall.

**Pollinators** (19 records): 53% beetles, 37% bees or wasps, 11% butterflies or moths.

**Detailed Pollinators** (12 records): Honey Bee (5), Monkey Beetle (3), Wasp (unspecified), Moth (unspecified), Carpenter Bee, Butterfly (unspecified).

**Habitat:**

**Distance to Ocean** (527 records): 100% inland - further than 2 km from coast.

**Altitude** (527 records): 100 - 1440 m; 400 *lq* - 520 *med* - 640 *uq*m.

**Landform** (524 records): 64% deep soil, 32% shallow soil, 4% rocky outcrops.

**Slope** (523 records): 51% gentle incline, 31% steep incline, 9% platform, 5% hill top, 4% valley bottom.

**Aspect** (467 records): 32% West, 30% East, 23% North, 15% South.

**Soil Type** (524 records): 49% sandy, 23% gravelly, 17% loamy, 9% rocky, 2% clayey.

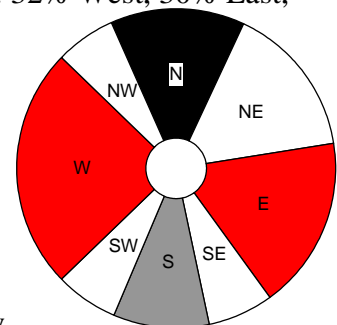
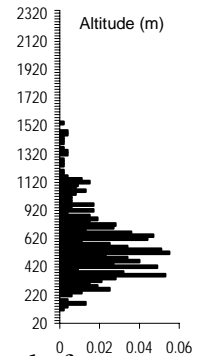
**Soil Colour** (520 records): 46% grey, 33% brown, 10% white, 7% orange, 2% yellow, 1% black.

**Geology** (521 records): 88% sandstone, 9% shale, 2% silcrete or ferricrete, 1% Tertiary sands.

**Vegetation** (525 records): 98% shrubland, 2% plantations.

**Conservation Status and Threat:**

**Red Data List Status:** Least Concern. Occurrence (Fynbos): 1 264 km<sup>2</sup> with 40% conserved and 20% lost; Occupancy: 393 km<sup>2</sup> with 43% conserved and 10% lost. Fragmentation index: 26%.



**Nature Reserves** (527 records): 51% in nature reserves - well conserved.

**Habitat destruction** (516 records): 94% extensive natural habitat, 3% naturally linear habitats, 2% islands, 1% naturally fragmented habitats.

**Alien Invasive Species** (518 records): 34% none, 28% *Hakea*, 25% *Pinus*, 14% Fabaceae (chiefly alien *Acacia*).

**Alien Density** (517 records): 34% alien-free, 52% sparse, 10% abundant, 4% dense.

**Cultivation & Utilization:**

**Picking** (418 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Very much more like *S. acrocarpa* in habit unlike yesterdays which were far more scraggly in habit not so neatly rounded (AGRY4031102);

2 Protea Canaries observed eating seeds - even though seeds young? or are these an earlier crop of seeds? (AGRY4092610);

1/30 dead recently (AGRY4031002); 1/100 dead recently (AGRY4031003); 1/10 to 1/100 dead in patches (AGRY4031102); Looks very stressed (AWA99092801);

Dying (VCH99040402); Very dry - dying (VCH99040403);

Pollinator: Protea Beetle - small brown *Tricostetha* (AGRY4092401);

**Confusing Species:** Readily confused with *S. acrocarpa*, but has spreading hairs on the tepals and more untidy (spindly) growth habit. Odd records of misidentification with *S. aitonii* (with much neater leaves and straighter styles) and *S. rosea* (with a large involucre of bracts and straight styles).

Records of identification queries = 44.

Records of corrected identification queries = 9.

**Variation and Taxonomy:** No variation noted, except that to the north the difference between *S. acrocarpa* and *S. pedunculata* becomes blurred, and atlassers had great difficulty in choosing between the two species.

**Distribution:** Add.

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## *Serruria reflexa* Rourke 1990 Milky Spiderhead

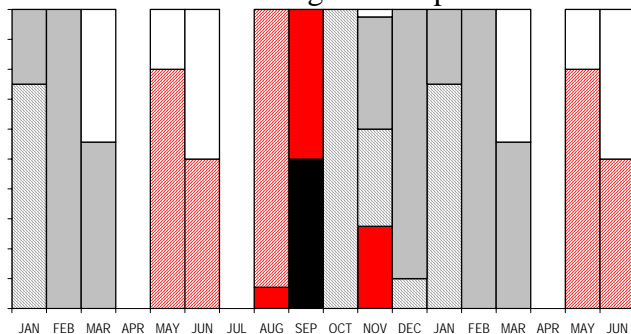
**Other Common Names:** None known.  
**Other Scientific Names:** *onderbosensis* *nomen nudum* (Protea Atlas).

### 89 Records

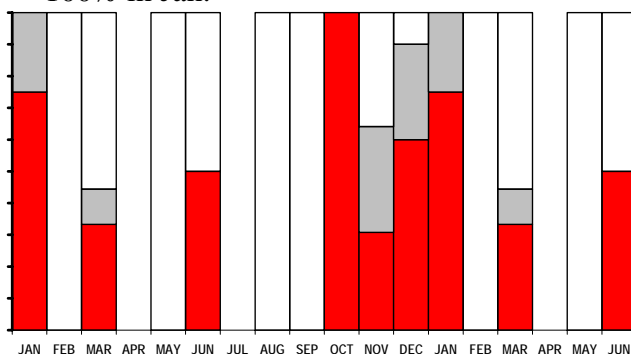
**Population** (89 records): 1% Abundant, 38% Common, 54% Frequent, 7% Rare.

**Dispersion** (88 records): 60% variable, 40% clumped.

**Flowering** (89 records with: Jan 4, Feb 2, Mar 9, Apr 0, May 5, Jun 2, Jul 0, Aug 14, Sep 2, Oct 1, Nov 40, Dec 10): Buds from May to Aug; Flowering from Sep to Nov; Peak Flowering from Sep; Over from Jan and Oct to Nov; Fruit from Nov to Mar; Nothing from Mar to Jun. Peak levels unreliable at 100% from Aug to Sep. Historically recorded as flowering from Sep to Nov.



**Growth** (88 records with: Jan 4, Feb 2, Mar 9, Apr 0, May 5, Jun 2, Jul 0, Aug 14, Sep 2, Oct 1, Nov 39, Dec 10): Much from Oct to Mar and Jun; Rare from Nov to Jan; None from Feb to Nov. Peak levels unreliable at 100% in Jan.



**Seedlings** (58 records): All without any seedlings present.

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

**Age to first flowering:** First flowers recorded at 2 years, 50% estimated at 3-4 years, and 100% recorded at 6 years.



**Height** (89 records): 26% 0.2-1 m tall, 74% 1-2 m tall.

**Pollinators** (13 records): 62% beetles, 31% bees or wasps, 8% butterflies or moths.

**Detailed Pollinators** (12 records): Monkey Beetle (7), Carpenter Bee (4), Moth (unspecified).

### Habitat:

**Distance to Ocean** (89 records): 100% inland - further than 2 km from coast.

**Altitude** (89 records): 360 - 1200 m; 480 *lq* - 620 *med* - 700 *uq* m.

**Landform** (88 records): 64% deep soil, 31% shallow soil, 6% rocky outcrops.

**Slope** (88 records): 51% gentle incline, 28% steep incline, 10% hill top, 10% platform.

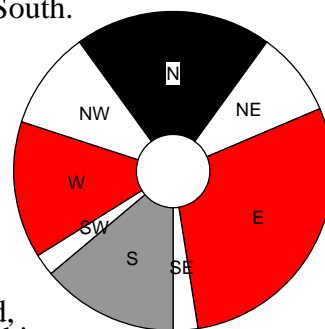
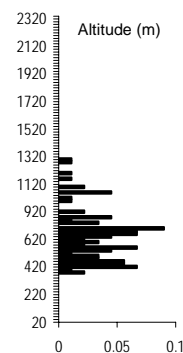
**Aspect** (80 records): 34% East, 32% North, 18% West, 17% South.

**Soil Type** (89 records): 37% sandy, 37% gravelly, 13% rocky, 12% loamy.

**Soil Colour** (88 records): 52% brown, 32% grey, 6% red, 5% yellow, 3% white, 2% orange.

**Geology** (89 records): 63% sandstone, 34% shale, 3% silcrete or ferricrete.

**Vegetation** (89 records): 100% shrubland.



### Conservation Status and Threat:

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

**Occurrence** (Fynbos): 269 km<sup>2</sup> with 1% conserved and 7% lost; **Occupancy:** 89 km<sup>2</sup> with 5% conserved and 3% lost. **Fragmentation index:** 31%.

**Nature Reserves** (89 records): 10% in nature reserves - inadequately conserved.

**Habitat destruction** (88 records): 94% extensive natural habitat, 5% naturally linear habitats, 1% corridors.

**Alien Invasive Species** (86 records): 71% none, 22% *Pinus*, 6% Fabaceae (chiefly alien *Acacia*), 1% other aliens.

**Alien Density** (86 records): 71% alien-free,  
28% sparse, 1% abundant.

**Cultivation & Utilization:**

**Picking** (79 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Some die-back (PMRY0111104);

A total surprise - all along this transect this species has expanded its niche to replace *S. acrocarpa*! (AGRY3112554); *S. reflexa* and *S. acrocarpa* ranges do not overlap here (SHR95031801);

Noticeably in swathes across the plot - could be alternation of sandstone and shale (SMRY0030110);

**Confusing Species:** Specimens not in flower require careful inspection to separate from *S. acrocarpa*. – in flower the flowerheads with their long stalks are quite distinct.

Records of identification queries = 21.

Records of corrected identification queries = 1.

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

**Distribution:** Add.

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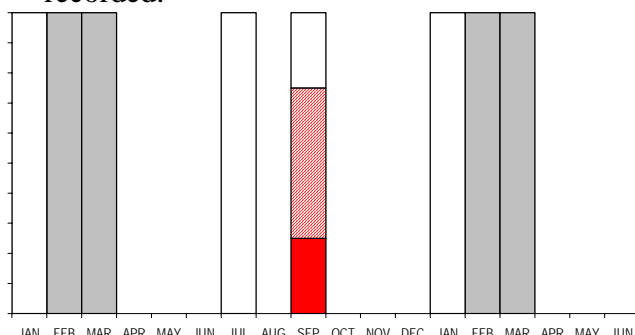
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*Serruria scoparia* R.Br. 1810  
Castle Spiderhead

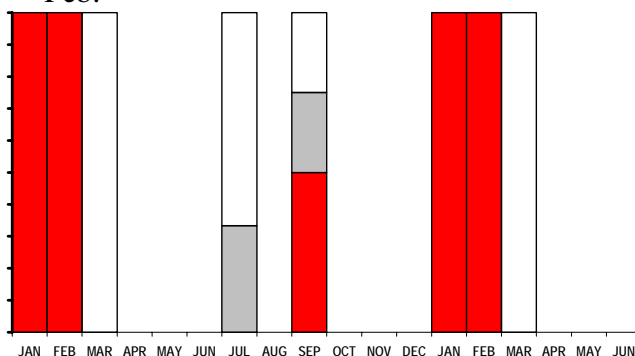
**Other Common Names:** None known.  
**Other Scientific Names:** perhaps: *callosa* Salisb. ex Knight 1809, *dregei* Meisn. 1856.

**13 Records**

**Population** (13 records): 8% Common, 54% Frequent, 38% Rare.  
**Dispersion** (10 records): 60% variable, 30% clumped, 10% evenly distributed.  
**Flowering** (13 records with: Jan 1, Feb 1, Mar 1, Apr 0, May 0, Jun 0, Jul 6, Aug 0, Sep 4, Oct 0, Nov 0, Dec 0): Buds from Sep; Flowering from Sep; Peak Flowering and Over not recorded; Fruit from Feb to Mar; Nothing from Jul to Jan. Peak levels unreliable at 75% in Sep. Historically not recorded.



**Growth** (13 records with: Jan 1, Feb 1, Mar 1, Apr 0, May 0, Jun 0, Jul 6, Aug 0, Sep 4, Oct 0, Nov 0, Dec 0): Much from Sep to Feb; Rare from Jul to Sep; None from Mar to Sep. Peak levels unreliable at 100% from Jan to Feb.



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

**Fire Survival** : No data.

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

**Height** (13 records): 8% 0-0.2 m tall, 92% 0.2-1 m tall.

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

**Detailed Pollinators** (1 record): Painted Lady Butterfly.

**Habitat:**

**Distance to Ocean** (13 records): 100% inland - further than 2 km from coast.

**Altitude** (13 records): 40 - 140 m; 60<sub>lq</sub> - 80<sub>med</sub> - 80<sub>uq</sub>m.

**Landform** (13 records): 92% deep soil, 8% shallow soil.

**Slope** (13 records): 62% platform, 31% gentle incline, 8% hill top.

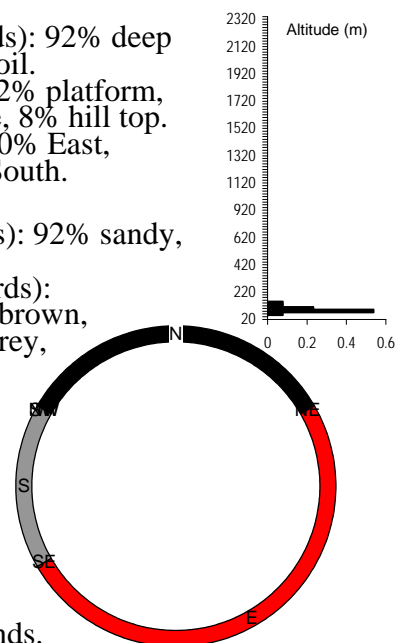
**Aspect** (6 records): 50% East, 33% North, 17% South.

**Soil Type** (13 records): 92% sandy, 8% clayey.

**Soil Colour** (13 records): 46% yellow, 23% brown, 15% orange, 8% grey, 8% white.

**Geology** (13 records): 62% Tertiary sands, 31% shale, 8% sandstone.

**Vegetation** (13 records): 92% shrubland, 8% agricultural lands.



**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 41 km<sup>2</sup> with 0% conserved and 87% lost; **Occupancy:** 23 km<sup>2</sup> with 0% conserved and 91% lost. **Fragmentation index:** 17%.

**Nature Reserves** (13 records): 0% in nature reserves - unconserved.

**Habitat destruction** (13 records): 46% islands, 38% extensive natural habitat, 15% road verges.

**Alien Invasive Species** (13 records): 92% Fabaceae (chiefly alien *Acacia*), 8% none.

**Alien Density** (13 records): 8% alien-free, 23% sparse, 62% abundant, 8% dense.

**Cultivation & Utilization:**

**Picking** (13 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Originally atlassed as *S. incrassata* - no flowerheads - turned out to be a major find! Follow up on previous record! (AGR99031703; AGRY0072715, 18); Atlassed as *S. incrassata* as no flowers present (SMRY0072704, 10, 14; SMRY1091301); Atlassed As Se ??? (cf. *S. pedunculata*)- fax of specimen (with no flowerheads) accompanied specimen - <identified as near *S. incrassata* - later confirmed as *S. scoparia*> (VDW97020301; VDW98011402);

One plant dead and one not found from Ruth's original plot (AGRY1092801);

**Confusing Species:** Similar to *S. incrassata*,  
but more erect, with shorter flowerhead stalk  
and yellow, not silver, flowerheads.  
Records of identification queries = 10.  
Records of corrected identification queries = 9.

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

**Distribution:** Add.

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*Serruria brownii* Meisn. 1856  
**Bottlebrush Spiderhead**  
*Fleskwasbos*

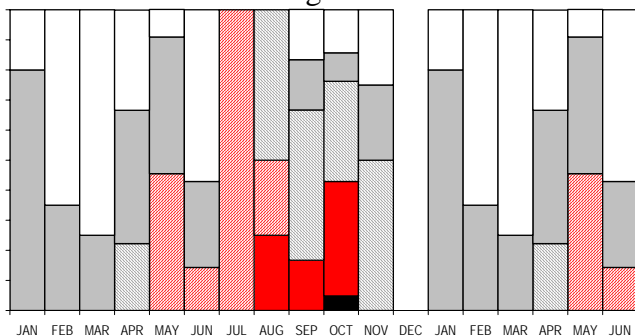
**Other Common Names:** None known.  
**Other Scientific Names:** None: some potential synonyms are listed under *S. millefolia*, pending further investigation.

**105 Records**

**Population** (104 records): 26% Common, 44% Frequent, 28% Rare, 2% Extinct.

**Dispersion** (92 records): 68% variable, 30% clumped, 1% evenly distributed.

**Flowering** (103 records with: Jan 10, Feb 20, Mar 8, Apr 9, May 11, Jun 7, Jul 3, Aug 4, Sep 6, Oct 21, Nov 4, Dec 0): Buds from May and Jul to Aug; Flowering from Aug and Oct; Peak Flowering not significant; Over from Apr and Aug to Nov; Fruit from Nov to Jun; Nothing from Nov to Apr and Jun. Peak levels unreliable at 100% in Aug, more reliably 76% in Oct. Historically recorded as flowering from Jun to Oct.



**Height** (103 records): 7% 0-0.2 m tall, 93% 0.2-1 m tall.

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

**Detailed Pollinators:** No additional data.

**Habitat:**

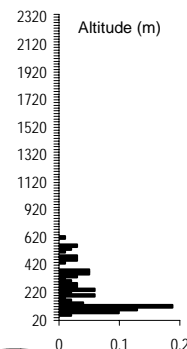
**Distance to Ocean** (101 records): 100% inland - further than 2 km from coast.

**Altitude** (101 records): 40 - 620 m; 100<sub>lq</sub> - 120 med - 120<sub>uq</sub>m.

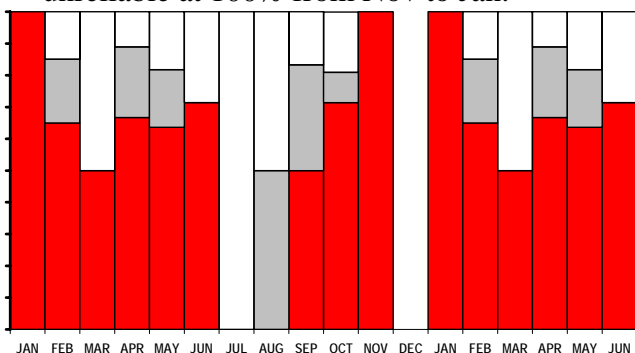
**Landform** (100 records): 93% deep soil, 5% shallow soil, 2% rocky outcrops.

**Slope** (100 records): 47% gentle incline, 40% platform, 7% steep incline, 3% valley bottom, 2% dunes, 1% hill top.

**Aspect** (68 records): 39% South, 39% West, 15% East, 7% North.



**Growth** (103 records with: Jan 10, Feb 20, Mar 8, Apr 9, May 11, Jun 7, Jul 3, Aug 4, Sep 6, Oct 21, Nov 4, Dec 0): Much from Sep to Jun; Rare from Feb, Apr and Aug to Sep; None from Mar and Jun to Aug. Peak levels unreliable at 100% from Nov to Jan.

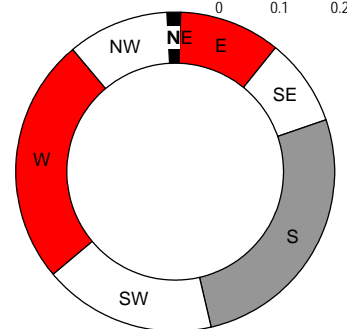


**Soil Type** (100 records): 51% sandy, 31% loamy, 13% clayey, 4% gravelly, 1% rocky.

**Soil Colour** (100 records): 42% brown, 28% grey, 12% white, 12% orange, 3% yellow, 3% red.

**Geology** (96 records): 34% granite, 28% Tertiary sands, 21% shale, 10% sandstone, 5% silcrete or ferricrete, 1% conglomerate.

**Vegetation** (101 records): 100% shrubland.



**Seedlings** (42 records): Absent in 95%: more seedlings than prefire adults in 1 case. Seedlings found in Jun.

**Fire Survival** (9 records): 100% survived by seedlings only.

**Age to first flowering:** First flowers recorded at 2 years, 50% estimated at 3-4 years, and 100% recorded at 5 years.

**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 249 km<sup>2</sup> with 4% conserved and 58% lost; **Occupancy:** 77 km<sup>2</sup> with 13% conserved and 42% lost. **Fragmentation index:** 11%.

**Nature Reserves** (101 records): 25% in nature reserves.

**Habitat destruction** (100 records): 69% extensive natural habitat, 18% islands, 8% road verges, 4% naturally linear habitats, 1% naturally fragmented habitats.



**Alien Invasive Species** (100 records):

78% Fabaceae (chiefly alien *Acacia*),  
12% *Pinus*, 8% none, 1% Myrtaceae,  
1% annual alien grasses.

**Alien Density** (100 records): 8% alien-free,  
48% sparse, 27% abundant, 14% dense,  
3% impenetrable.

**Cultivation & Utilization:**

**Picking** (80 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:**

A big sprawling bush (MEM92042804);

Thicket invasion - needs a burn, but young  
plants (AGR95101507);

There were odd plants here in 1984 - all now  
gone (GYC95100403); I fear this population

is in great danger (IEB99082602);  
Population likely to become extinct within  
10 yrs due to industrial / urban development,  
earthmoving and aliens (NAHY0022101);  
On sandy saddle (SMRY0041502);

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

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

**Distribution:** Add.

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*Serruria hirsuta* R.Br. 1810  
Swartkops Spiderhead

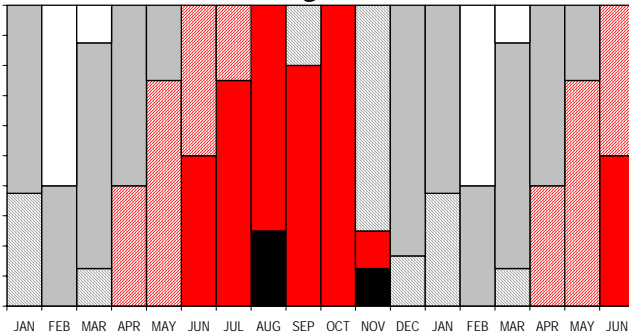
**Other Common Names:** Hairy Spiderhead.  
**Other Scientific Names:** *phyllicoides* (Thunb) 1781, *serraroides* (Soland ex Meisn) 1856.

**66 Records**

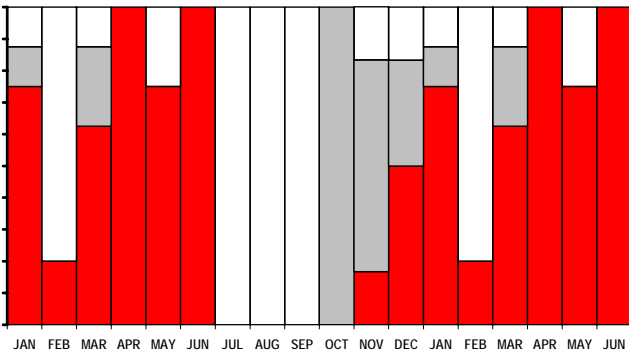
**Population** (66 records): 3% Abundant, 65% Common, 27% Frequent, 5% Rare.

**Dispersion** (65 records): 63% variable, 28% clumped, 6% widespread, 3% evenly distributed.

**Flowering** (66 records with: Jan 8, Feb 5, Mar 8, Apr 5, May 4, Jun 4, Jul 4, Aug 8, Sep 5, Oct 1, Nov 8, Dec 6): Buds from Apr to Jul; Flowering from Jun to Oct; Peak Flowering from Aug; Over from Jan and Sep to Nov; Fruit from Dec to May; Nothing from Feb. Peak levels at 100% in Aug. Historically recorded as flowering from Jul to Oct.



**Growth** (62 records with: Jan 8, Feb 5, Mar 8, Apr 5, May 4, Jun 3, Jul 4, Aug 7, Sep 5, Oct 1, Nov 6, Dec 6): Much from Dec to Jun; Rare from Mar and Oct to Dec; None from Feb and May to Sep. Peak levels unreliable at 100% in Apr and Jun, possibly peaking in Jan.



**Seedlings** (9 records): All without any seedlings present.

**Fire Survival** : No data.

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



**Height** (66 records): 97% 0.2-1 m tall, 3% 1-2 m tall.

**Pollinators** (1 record): 100% bees or wasps.  
**Detailed Pollinators:** No additional data.

**Habitat:**

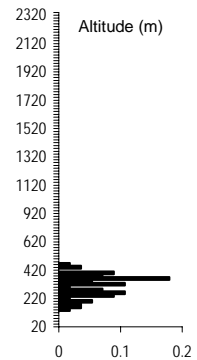
**Distance to Ocean** (56 records): 100% coastal - less than 2 km from coast.

**Altitude** (56 records): 120 - 460 m; 240<sub>lq</sub> - 280<sub>med</sub> - 340<sub>uq</sub> m.

**Landform** (55 records): 56% deep soil, 22% rocky outcrops, 22% shallow soil.

**Slope** (55 records): 84% steep incline, 16% gentle incline.

**Aspect** (55 records): 62% East, 38% North.

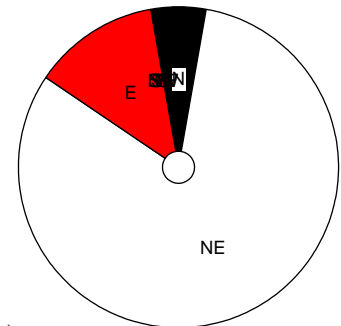


**Soil Type** (55 records): 62% sandy, 20% loamy, 11% gravelly, 7% rocky.

**Soil Colour** (55 records): 56% brown, 42% grey, 2% yellow.

**Geology** (55 records): 95% sandstone, 4% granite, 2% shale.

**Vegetation** (55 records): 100% shrubland.



**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 4 km<sup>2</sup> with 68% conserved and 30% lost; **Occupancy:** 9 km<sup>2</sup> with 45% conserved and 31% lost. Fragmentation index meaningless.

**Nature Reserves** (56 records): 96% in nature reserves - well conserved.

**Habitat destruction** (55 records): 100% extensive natural habitat.

**Alien Invasive Species** (54 records): 31% Fabaceae (chiefly alien *Acacia*), 28% *Hakea*, 26% none, 11% *Pinus*, 4% Myrtaceae.

**Alien Density** (51 records): 27% alien-free, 59% sparse, 8% abundant, 6% dense.

**Cultivation & Utilization:**

**Picking** (36 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Buds appear to be better developed higher up the slope than lower down (CVV94042404);  
Smaller and less abundant than lower down (CVV95030905);

A small population isolated from the main population at an elevation of 200 m - much lower than the 360 m recorded (CVV97123104);

**Confusing Species:** Misidentified with *S. glomerata*, which has compound flowerheads.

Records of identification queries = 2.

Records of corrected identification queries = 2.

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

**Distribution:** Add.

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*Serruria millefolia* Salisb. ex Kn. 1809

**Milli-leaf Spiderhead**

*Muistepels*

**Other Common Names:** Southern-woodleaf Serruria, Thousand-leaf Serruria, Thousand-leaf Spiderhead.

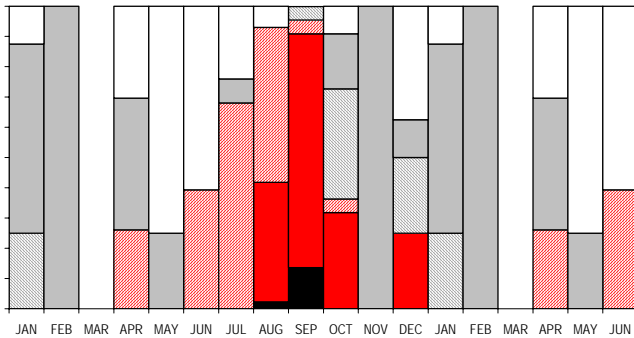
**Other Scientific Names:** *abrotanifolia* (Andr) 1803, *andrewsii* Endl. 1847, *commutata* Endl. 1847, *hirsuta* Berg ex Meisn 1856, *stilbe* R.Br. 1810, *thunbergii* Endl. 1847, *triternata* (Kenn ex Andr.) 1803, *villosa* (Thunb) 1781 and possibly *andrewsii* Endl. 1847, *pilosa* Roem. & Schultes, *triplicoternata* Roem. & Schultes. Some of these are possibly synonyms for *S. brownii*.

**211 Records**

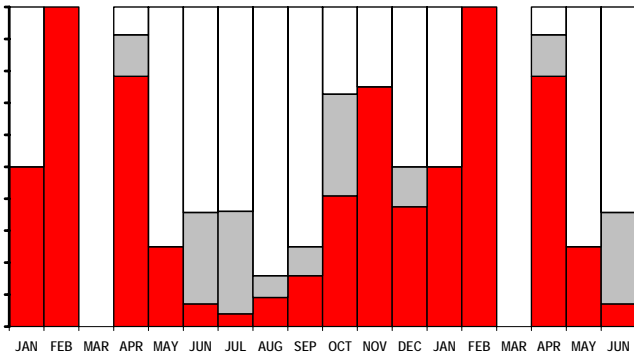
**Population** (211 records): 7% Common, 34% Frequent, 59% Rare.

**Dispersion** (146 records): 70% variable, 29% clumped, 1% evenly distributed.

**Flowering** (210 records with: Jan 8, Feb 1, Mar 0, Apr 23, May 4, Jun 28, Jul 25, Aug 43, Sep 44, Oct 22, Nov 4, Dec 8): Buds from Apr to Aug; Flowering from Aug to Oct and Dec; Peak Flowering not significant; Over from Dec to Jan and Oct; Fruit from Jan to May and Nov; Nothing from Apr to Jul and Dec. Peak levels at 100% in Sep. Historically recorded as flowering from Aug to Dec.



**Growth** (211 records with: Jan 8, Feb 1, Mar 0, Apr 23, May 4, Jun 28, Jul 25, Aug 44, Sep 44, Oct 22, Nov 4, Dec 8): Much from Oct to May; Rare from Jun to Jul and Oct; None from May to Jan. Peak levels unreliable at 100% in Feb.



**Seedlings** (80 records): All without any seedlings present.

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

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



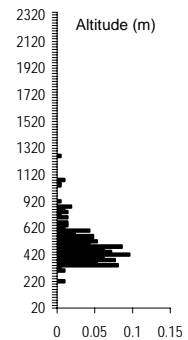
**Height** (210 records): 3% 0-0.2 m tall, 90% 0.2-1 m tall, 7% 1-2 m tall.

**Pollinators** (6 records): 83% beetles, 17% flies.  
**Detailed Pollinators** (2 records): Monkey Beetle.

**Habitat:**

**Distance to Ocean** (209 records): 100% inland - further than 2 km from coast.

**Altitude** (209 records): 200 - 1160 m; 380 *lq* - 440 *med* - 500 *uqm*.



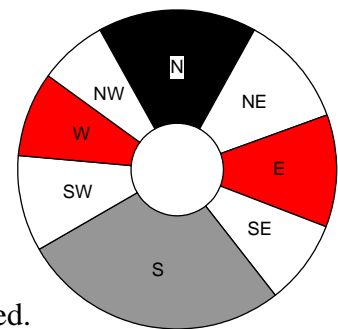
**Landform** (209 records): 94% deep soil, 6% shallow soil.

**Slope** (209 records): 75% gentle incline, 11% hill top, 11% platform, 2% valley bottom, 1% steep incline.

**Aspect** (175 records): 37% South, 25% North, 21% East, 17% West.

**Soil Type** (209 records): 98% sandy, 1.0% rocky.

**Soil Colour** (208 records): 38% brown, 18% white, 18% yellow, 13% grey, 7% orange, 6% red.



**Geology** (206 records): 96% sandstone, 2% silcrete or ferricrete, 1% shale, 1% Tertiary sands.

**Vegetation** (209 records): 99% shrubland, 1% agricultural lands.

**Conservation Status and Threat:**

**Red Data List Status:** Vulnerable A4c. Occurrence (Fynbos): 3 545 km<sup>2</sup> with 18% conserved and 18% lost; Occupancy: 262 km<sup>2</sup> with 6% conserved and 27% lost. Fragmentation index: 6%.

**Nature Reserves** (209 records): 6% in nature reserves - inadequately conserved.

**Habitat destruction** (206 records):  
71% extensive natural habitat, 26% islands,  
2% naturally fragmented habitats.

**Alien Invasive Species** (200 records):  
77% none, 17% Fabaceae (chiefly alien  
*Acacia*), 6% *Pinus*.

**Alien Density** (198 records): 78% alien-free,  
21% sparse, 2% abundant.

**Cultivation & Utilization:**

**Picking** (152 records): 100% no sign of  
picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Same form as on Gifberg - not normal West  
Coast form (AGRY0092306); Typical form  
(AMMY0103107);

Finer and denser than normal (AGR95070624);  
This is far to dense for normal - it is also a  
much more dense lower bush  
(AWA94081603); Much tighter and neater  
than normal - but new leaves are big!  
(SHR95100701); Not as described and  
illustrated in protea books! Longer leaves  
longer flower stems 20 mm and up to 20  
flower heads on each branch  
(TLE97101105);

Younger plants have longer leaves than older  
plants (SHR97010201);

Some bushes very wide (AWA95081606); Old  
and struggling - one bush 1 m tall and nearly  
3 m wide (AWA95082703);

Normal centripetal flowering with feint scent  
(SHR96123001);

Up to 20 flower heads per stem  
(TLE97101203);

40 of the 53 plants seen are in a single clump  
(TLE97101105);

Recruits well in disturbed areas  
(AGR95070519); Seen in ditch cleared for  
pipeline - does this favour like postfire  
environment or disturbance?

(AGRY0092306); Only seen in burned areas  
- seems to die out early in older veld  
(AGRY0102827); Young plants confined to  
vicinity of sand track (SHR95100701);

One old bush on side of road escaped clearing  
of land this time - but the plough will get it  
(AWA95082604); Repeated visits failed to  
relocate - destroyed by Rooibos Tea in the  
interim? (IEBY0082401);

Killed by fire but survives bush cutting by  
'resprouting' especially when young  
(AGR95070519);

Most dying off - drought? (WIJ99072607);

**Confusing Species:** Confused with *S. fucifolia*,  
which has longer leaves and silver  
flowerheads, mainly when not in flower.

Records of identification queries = 49.

Records of corrected identification queries = 2.

**Variation and Taxonomy:** The form from the  
summit of Matsikammaberg and Gifberg has  
far longer leaves and more heads than is  
typical elsewhere.

**Distribution:** Add.

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*Serruria rostellaris* Salisb. ex Kn. 1809  
Remote Spiderhead

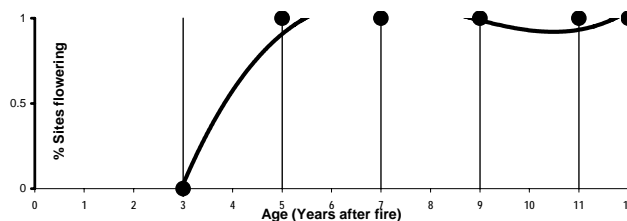
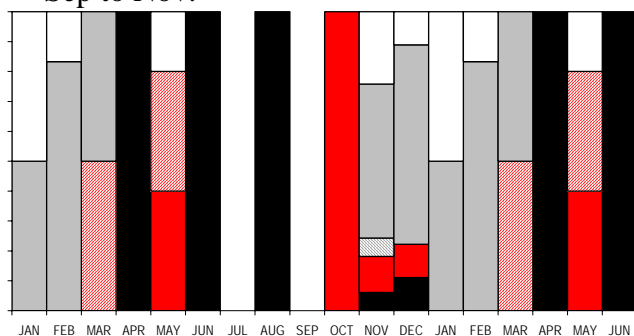
**Other Common Names:** Little-beak Serruria.  
**Other Scientific Names:** *decumbens* (Andr) 1803, *nivenii* R.Br. 1810, *plumosa* Meisn 1856.

**82 Records**

**Population** (82 records): 27% Common, 59% Frequent, 15% Rare.

**Dispersion** (75 records): 59% variable, 40% clumped, 1% evenly distributed.

**Flowering** (82 records with: Jan 2, Feb 18, Mar 2, Apr 9, May 5, Jun 2, Jul 0, Aug 1, Sep 0, Oct 1, Nov 33, Dec 9): Buds from Mar to May; Flowering from May and Oct; Peak Flowering from Apr, and Jun to Aug; Over not significant; Fruit from Nov to Mar; Nothing from Jan, May and Nov. Peak levels unreliable at 100% in Apr and Jun to Oct. Historically recorded as flowering from Sep to Nov.



**Height** (82 records): 11% 0-0.2 m tall, 89% 0.2-1 m tall.

**Pollinators** (6 records): 50% bees or wasps, 50% beetles.

**Detailed Pollinators** (4 records): Honey Bee (2), Great Protea Beetle, Carpenter Bee.

**Habitat:**

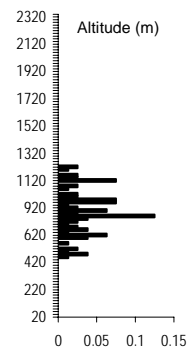
**Distance to Ocean** (80 records): 100% inland - further than 2 km from coast.

**Altitude** (80 records): 440 - 1120 m; 660<sub>lq</sub> - 780<sub>med</sub> - 880<sub>uq</sub>m.

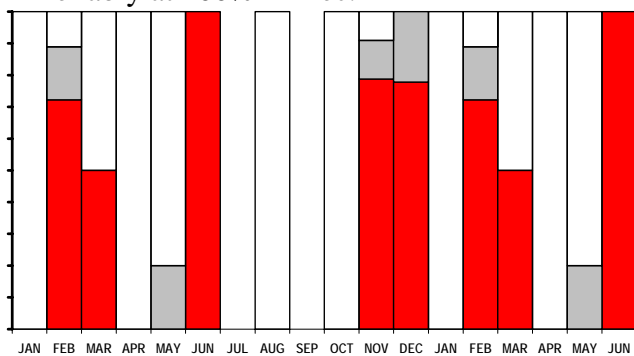
**Landform** (80 records): 85% deep soil, 14% shallow soil, 1% swamp.

**Slope** (80 records): 44% steep incline, 41% gentle incline, 14% hill top, 1% cliff.

**Aspect** (72 records): 63% South, 22% East, 12% North, 3% West.



**Growth** (82 records with: Jan 2, Feb 18, Mar 2, Apr 9, May 5, Jun 2, Jul 0, Aug 1, Sep 0, Oct 1, Nov 33, Dec 9): Much from Nov to Mar and Jun; Rare from May and Dec; None from Jan, Mar to May and Aug to Oct. Peak levels unreliable at 100% in Jun - more reliably at 100% in Dec.

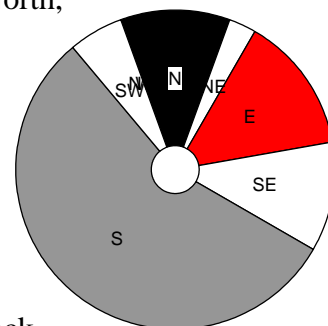


**Soil Type** (80 records): 43% peaty, 39% sandy, 10% loamy, 4% rocky, 3% clayey, 3% gravelly.

**Soil Colour** (80 records): 55% black, 43% grey, 3% brown.

**Geology** (80 records): 95% sandstone, 5% shale.

**Vegetation** (80 records): 100% shrubland.



**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 415 km<sup>2</sup> with 15% conserved and 24% lost; **Occupancy:** 99 km<sup>2</sup> with 12% conserved and 17% lost. **Fragmentation index:** 11%.

**Nature Reserves** (80 records): 10% in nature reserves - inadequately conserved.

**Habitat destruction** (80 records): 100% extensive natural habitat.

**Alien Invasive Species** (80 records): 85% *Pinus*, 11% none, 4% *Hakea*.

**Alien Density** (80 records): 11% alien-free, 78% sparse, 10% abundant, 1% dense.

**Cultivation & Utilization:**

**Seedlings** (58 records): Absent in 97%; fewer seedlings than prefire adults in 1 case. Seedlings found in Dec.

**Fire Survival** (6 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.

**Picking** (65 records): 98% no sign of picking,  
2% lightly picked.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

1 plant out of hundreds with multiple heads  
(WIJ96021704);

**Confusing Species:** Transcription errors with  
*S. rosea* noted. Misidentified with *S.*  
*phylloides* (which has longer stalks with  
conspicuous involucre bracts).

Records of identification queries = 21.

Records of corrected identification queries = 13.

**Variation and Taxonomy:** No variation noted,  
other than that rarely multiple heads occur  
and that often short headlets develop at the  
lower side of the flowerheads.

John Rourke suggests that the species may not  
be typifiable and that the next oldest name *S.*  
*nivenii* should be used.

**Distribution:** Add.

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*Serruria villosa* (Lam.) R.Br. 1791, 1810

**Golden Spiderhead**

*Gouespinnekopbos*

**Other Common Names:** Intrenched Serruria, Valley Spiderhead.

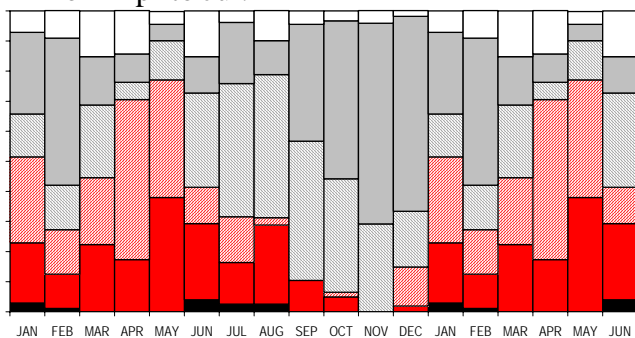
**Other Scientific Names:** *nivenii* Meisn 1856, *phylicoides* var.  $\gamma$  (Thunb.) 1781, *vallaris* Salisb. ex Knight 1809.

**978 Records**

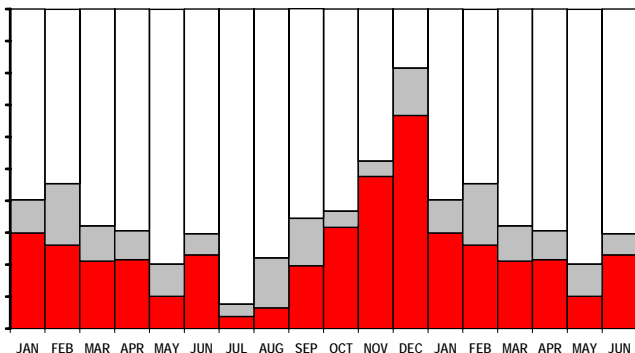
**Population** (972 records): 1% Abundant, 43% Common, 48% Frequent, 8% Rare.

**Dispersion** (931 records): 67% variable, 26% clumped, 6% widespread, 2% evenly distributed.

**Flowering** (965 records with: Jan 70, Feb 88, Mar 112, Apr 139, May 92, Jun 99, Jul 79, Aug 80, Sep 67, Oct 61, Nov 24, Dec 54): Buds from Jan and Mar to May; Flowering from Jan, Mar, May to Jun and Aug; Peak Flowering not significant; Over from Mar and Jun to Nov; Fruit from Sep to Feb; Nothing not significant. Peak levels at 90% in May. Historically recorded as flowering from Apr to Jul.



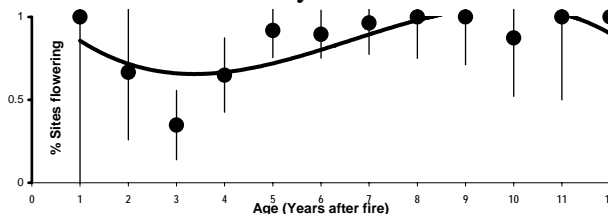
**Growth** (920 records with: Jan 67, Feb 88, Mar 109, Apr 134, May 79, Jun 91, Jul 79, Aug 77, Sep 61, Oct 60, Nov 21, Dec 54): Much from Sep to Apr and Jun; Rare not significant; None from Jan Nov. Peak levels at 82% in Dec.



**Seedlings** (295 records): Absent in 77%: fewer seedlings than prefire adults in 21 cases, and more in 13 cases. Seedlings found in Feb (4), Mar (7), Apr (5), May (3), Jun, Jul (2), Aug (10) and Oct (2).

**Fire Survival** (90 records): 88% survived by seedlings only, 10% escaped fires in fire-safe areas, 2% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 1 year, 50% estimated at 2-4 years, and 100% recorded at 8 years.



**Height** (972 records): 9% 0-0.2 m tall, 88% 0.2-1 m tall, 3% 1-2 m tall.

**Pollinators** (14 records): 86% bees or wasps, 7% flies, 7% beetles.

**Detailed Pollinators** (5 records): Honey Bee (4), Solitary Bee.

**Habitat:**

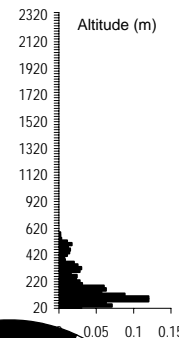
**Distance to Ocean** (960 records): 69% coastal - less than 2 km from coast.

**Altitude** (962 records): 20 - 580 m; 60<sub>iq</sub> - 100<sub>med</sub> - 140<sub>uq</sub>m.

**Landform** (958 records): 74% deep soil, 17% shallow soil, 8% rocky outcrops.

**Slope** (954 records): 61% gentle incline, 18% platform, 9% steep incline, 8% hill top, 2% valley bottom.

**Aspect** (762 records): 31% South, 28% West, 23% North, 18% East.

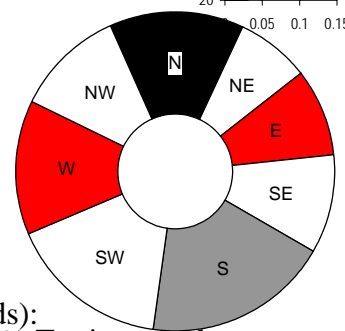


**Soil Type** (960 records): 94% sandy, 4% loamy.

**Soil Colour** (960 records): 70% grey, 20% white, 6% brown, 3% black.

**Geology** (937 records): 98% sandstone, 2% Tertiary sands.

**Vegetation** (960 records): 99% shrubland.



**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 199 km<sup>2</sup> with 73% conserved and 18% lost; **Occupancy:** 185 km<sup>2</sup> with 77% conserved and 10% lost. **Fragmentation index:** 69%.

**Nature Reserves** (962 records): 91% in nature reserves - well conserved.

**Habitat destruction** (942 records): 98% extensive natural habitat, 2% naturally linear habitats.

**Alien Invasive Species** (909 records): 58% none, 34% Fabaceae (chiefly alien *Acacia*), 7% *Pinus*.



**Alien Density** (907 records): 58% alien-free, 37% sparse, 5% abundant.

**Cultivation & Utilization:**

**Picking** (602 records): 100% no sign of picking, 0.2% lightly picked.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

In seed and in bud - second flowering of season (AGR99122104); For most of the large bushes peak flowering is over but many small bushes with only one or two blooms are still in bud (CVV93051801); Only A Few plants With Buds Compared to adjacent Sites (CVV98020804); Most of the plants here were in flower whereas those seen further north were over (JID94090504); At earlier flowering stage than lower on ridge (TLE96030303); A few in flower note different stage from those on top of escarpment (TLEY1022506);

Here was behind new growth elsewhere : still expanding leaves below heads (AGR92050906);

Young plants in old veld at disturbances (APE93041806); Plants in a zone about 50 m wide going uphill the zone appears to be an

old fire veld either cut or burnt younger than the rest of the veld (CVV97022505); Appears to be thriving on old fire break and open area adjacent to pine plantation (SHR92042506);

10 % Adult Mortality - due To Drought? (NAH94052102);

Replaced by *S. glomerata* up slopes (APE92050902);

**Confusing Species:** Often misidentified with *S. hirsuta* – a legacy of the Botanical Society A-team which regularly called *S. villosa* as *S. hirsuta*. Two instances of confusion with *S. cyanoides* which is a resprouter with much finer and less neat leaves.

Records of identification queries = 19.

Records of corrected identification queries = 8.

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

**Distribution:** Add.

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## *Serruria deluvialis* Rourke 1990 Grass Spiderhead

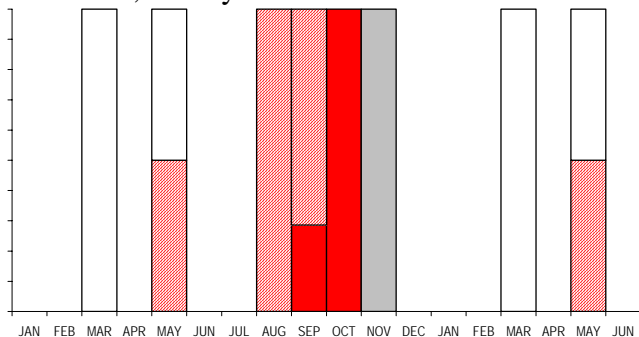
**Other Common Names:** None known.  
**Other Scientific Names:** *patersonii* nomen nudum - in Tansley.

### 15 Records

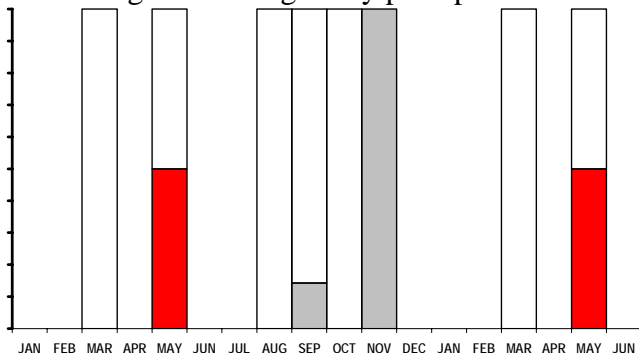
**Population** (15 records): 53% Common, 40% Frequent, 7% Rare.

**Dispersion** (15 records): 40% variable, 27% widespread, 27% clumped, 7% evenly distributed.

**Flowering** (15 records with: Jan 0, Feb 0, Mar 1, Apr 0, May 2, Jun 0, Jul 0, Aug 3, Sep 7, Oct 1, Nov 1, Dec 0): Buds from May to Sep; Flowering from Sep to Oct; Peak Flowering and Over not recorded; Fruit from Nov; Nothing from Mar to May. Peak levels unreliable at 100% from Sep to Oct. Historically recorded as flowering from Sep to Nov, mainly Oct.



**Growth** (15 records with: Jan 0, Feb 0, Mar 1, Apr 0, May 2, Jun 0, Jul 0, Aug 3, Sep 7, Oct 1, Nov 1, Dec 0): Much from May; Rare from Nov; None from Mar to Oct. Peak levels unreliable at 50% from May, with missing data during likely peak period.



**Seedlings** (11 records): All without any seedlings present.

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

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



**Height** (15 records): 60% 0-0.2 m tall, 40% 0.2-1 m tall.

**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

### Habitat:

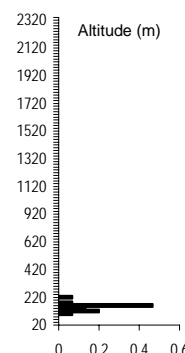
**Distance to Ocean** (15 records): 100% inland - further than 2 km from coast.

**Altitude** (15 records): 80 - 220 m; 100<sub>lq</sub> - 140<sub>med</sub> - 160<sub>uq</sub>m.

**Landform** (15 records): 93% deep soil, 7% shallow soil.

**Slope** (15 records): 80% gentle incline, 20% platform.

**Aspect** (15 records): 50% North, 37% West, 10% South, 3% East.

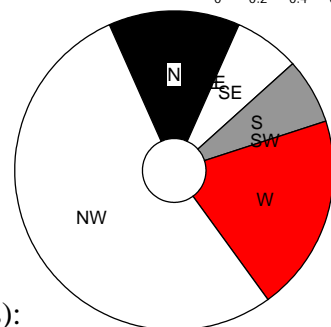


**Soil Type** (15 records): 53% sandy, 47% loamy.

**Soil Colour** (15 records): 60% grey, 27% brown, 7% white, 7% yellow.

**Geology** (14 records): 50% sandstone, 50% shale.

**Vegetation** (15 records): 100% shrubland.



### Conservation Status and Threat:

**Red Data List Status:** Endangered A2c, B1a(i)c(iv)+2a(i)c(iv).

**Occurrence (Fynbos):** 7 km<sup>2</sup> with 78% conserved and 0% lost; **Occupancy:** 14 km<sup>2</sup> with 68% conserved and 0% lost. Fragmentation index meaningless.

**Nature Reserves** (15 records): 93% in nature reserves - well conserved.

**Habitat destruction** (15 records): 100% extensive natural habitat.

**Alien Invasive Species** (15 records): 47% none, 40% *Pinus*, 13% Fabaceae (chiefly alien *Acacia*).

**Alien Density** (15 records): 47% alien-free, 53% sparse.

### Cultivation & Utilization:

**Picking** (15 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlasers Notes:** None.

**Confusing Species:** None recorded.

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

**Distribution:** Add.

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*Serruria rebeloi* Rourke 1999  
Clandestine Spiderhead

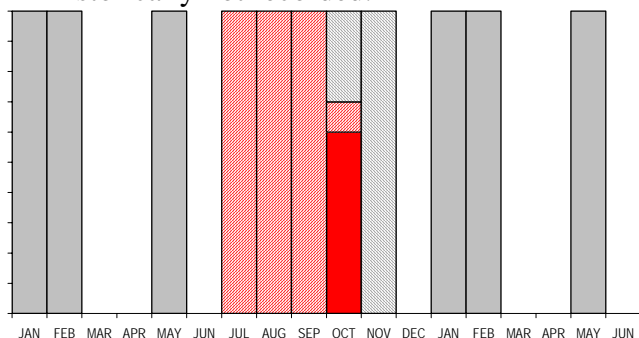
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**21 Records**

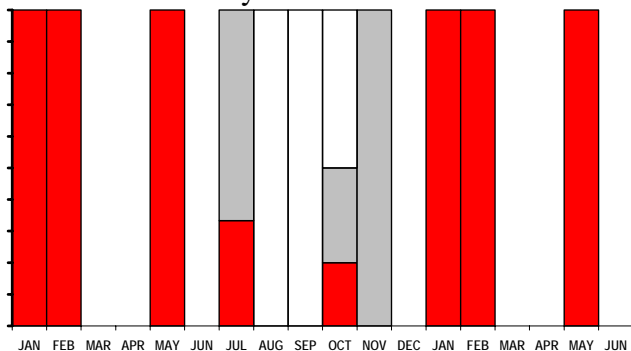
**Population** (21 records): 38% Common, 38% Frequent, 24% Rare.

**Dispersion** (17 records): 76% clumped, 24% variable.

**Flowering** (19 records with: Jan 1, Feb 1, Mar 0, Apr 0, May 1, Jun 0, Jul 3, Aug 1, Sep 1, Oct 10, Nov 1, Dec 0): Buds from Jul to Sep; Flowering from Oct; Peak Flowering not recorded; Over from Oct to Nov; Fruit from Jan to May; Nothing not recorded. Peak levels unreliable at 100% in Oct. Historically not recorded.



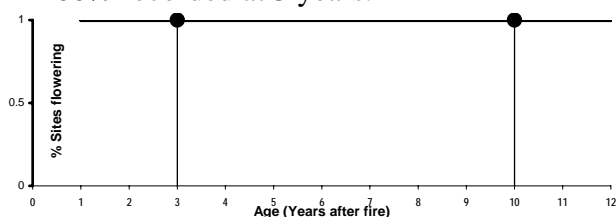
**Growth** (19 records with: Jan 1, Feb 1, Mar 0, Apr 0, May 1, Jun 0, Jul 3, Aug 1, Sep 1, Oct 10, Nov 1, Dec 0): Much from Jan to Jul; Rare from Jul and Oct to Nov; None from Aug to Oct. Peak levels unreliable at 100% from Jan to May.



**Seedlings** (5 records): All without any seedlings present.

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

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



**Height** (19 records): 79% 0-0.2 m tall, 21% 0.2-1 m tall.

**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

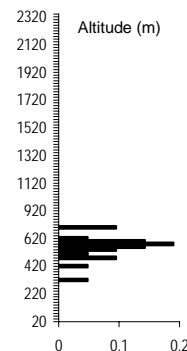
**Distance to Ocean** (21 records): 100% inland - further than 2 km from coast.

**Altitude** (21 records): 300 - 700 m; 500<sub>lq</sub> - 560<sub>med</sub> - 580<sub>uq</sub>m.

**Landform** (19 records): 95% deep soil, 5% shallow soil.

**Slope** (19 records): 74% gentle incline, 21% steep incline, 5% hill top.

**Aspect** (18 records): 64% North, 22% South, 14% East.



**Soil Type** (19 records):

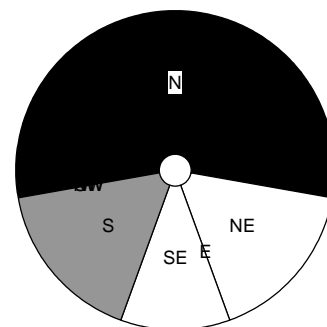
53% sandy, 32% loamy, 11% peaty, 5% gravelly.

**Soil Colour** (19 records):

58% grey, 26% black, 11% brown, 5% white.

**Geology** (21 records): 95% sandstone, 5% shale.

**Vegetation** (21 records): 100% shrubland.



**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 20 km<sup>2</sup> with 6% conserved and 5% lost; **Occupancy:** 20km<sup>2</sup> with 9% conserved and 10% lost. **Fragmentation index:** 95%.

**Nature Reserves** (21 records): 10% in nature reserves - inadequately conserved.

**Habitat destruction** (19 records):

100% extensive natural habitat.

**Alien Invasive Species** (18 records): 56% none, 17% *Hakea*, 17% *Pinus*, 6% Fabaceae (chiefly alien *Acacia*), 6% Myrtaceae.

**Alien Density** (18 records): 56% alien-free, 44% sparse.

**Cultivation & Utilization:**

**Picking** (17 records): 100% no sign of picking. **Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Not present in unburnt veld (SHR98081001); Growing in a recently burned island of veld (LYM98101506);

A new species! Our first record! JPR confirmed 30/07/98 (AGR98072904); Atlassed as species nova - single main stem leaves pointing vertically from horizontal stems

flower stalks emerging from leaf axils  
(SHR98081001); Small whip-leaf bushlet  
with horizontal branches leaves all upwards -  
Atlased as species nova (SMR98072905);

**Confusing Species:** Misidentified as *S.*  
*flagellaris*, which has a similar growth habit  
to adult *S. rebeloi*, but has hairless flowers.  
Records of identification queries = 7.  
Records of corrected identification queries = 2.

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

**Distribution:** Add.

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*Serruria aemula* var. *aemula* Salsib. ex Knight 1809  
**Cape Flats Strawberry Spiderhead**  
*Vlaktespinnekopbos*

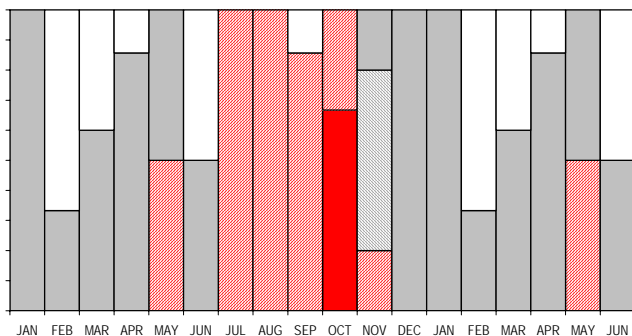
**Other Common Names:** Rival Serruria, Tygerberg Spiderhead.  
**Other Scientific Names:** *ciliata* R.Br. 1810, *glomerata* Willd ex Meisn. 1856,

**59 Records**

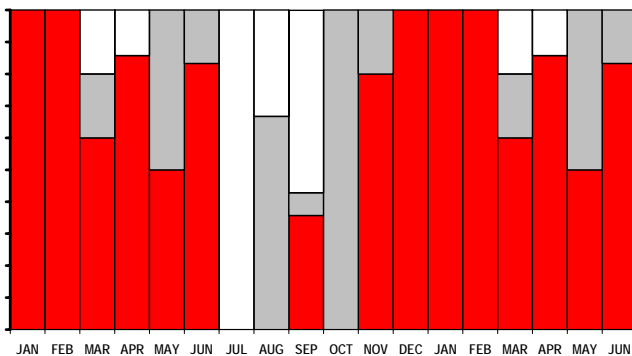
**Population** (57 records): 14% Common, 46% Frequent, 35% Rare, 5% Extinct.

**Dispersion** (48 records): 54% variable, 46% clumped.

**Flowering** (54 records with: Jan 1, Feb 6, Mar 5, Apr 7, May 2, Jun 6, Jul 1, Aug 3, Sep 14, Oct 3, Nov 5, Dec 1): Buds from May and Jul to Nov; Flowering from Oct; Peak flowering not recorded; Over from Nov; Fruit from Nov to Jun; Nothing from Feb to Mar and Jun. Peak levels unreliable at 100% in Oct. Historically recorded as flowering from Jul to Oct.



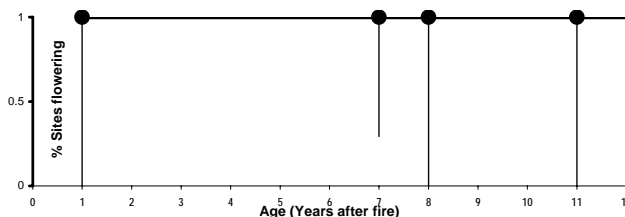
**Growth** (54 records with: Jan 1, Feb 6, Mar 5, Apr 7, May 2, Jun 6, Jul 1, Aug 3, Sep 14, Oct 3, Nov 5, Dec 1): Much from Sep to Jun; Rare from Mar, May, Aug and Oct to Nov; None from Mar and Jul to Sep. Peak levels unreliable at 100% from Dec to Feb.



**Seedlings** (34 records): Absent in 88%; fewer seedlings than prefire adults in 1 case, and more in 1 case. Seedlings found in Mar and Sep.

**Fire Survival** (3 records): 67% eliminated from the area by fires, 33% survived by seedlings only.

**Age to first flowering:** First flowers recorded at 1 year, 50% estimated at 1-5 years, and 100% recorded at 7 years.



**Height** (55 records): 2% 0-0.2 m tall, 96% 0.2-1 m tall, 2% 1-2 m tall.

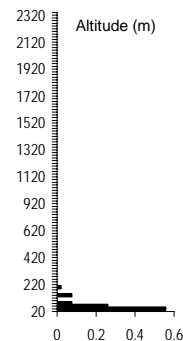
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (52 records): 100% inland - further than 2 km from coast.

**Altitude** (52 records): 20 - 140 m; 20<sub>lq</sub> - 40<sub>med</sub> - 40<sub>uq</sub> m.



**Landform** (52 records): 100% deep soil.

**Slope** (51 records): 86% platform, 10% valley bottom, 4% gentle incline.

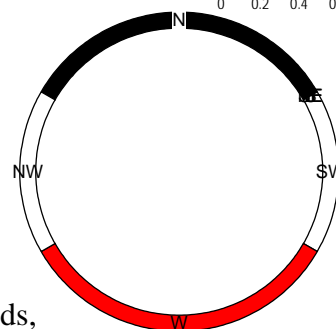
**Aspect** (5 records): 50% West, 40% North, 10% South.

**Soil Type** (52 records): 100% sandy.

**Soil Colour** (51 records): 57% white, 41% grey, 2% yellow.

**Geology** (50 records): 90% Tertiary sands, 10% sandstone.

**Vegetation** (52 records): 96% shrubland, 4% suburban.



**Conservation Status and Threat:**

**Red Data List Status:** Critically Endangered A2c, B1b(i,ii,iii,iv,v)c(iv) + 2b(i,ii,iii,iv,v)c(iv).

**Occurrence (Fynbos):** 55 km<sup>2</sup> with 2% conserved and 88% lost; **Occupancy:** 31 km<sup>2</sup> with 3% conserved and 100% lost. **Fragmentation index:** 31%.

**Nature Reserves** (52 records): 58% in nature reserves - well conserved.

**Habitat destruction** (52 records): 58% islands, 17% road verges, 13% patches, 8% extensive natural habitat, 4% corridors.

**Alien Invasive Species** (50 records): 96% Fabaceae (chiefly alien *Acacia*), 4% Myrtaceae.

**Alien Density** (50 records): 46% sparse, 44% abundant, 8% dense, 2% impenetrable.

**Cultivation & Utilization:**

**Picking** (47 records): 100% no sign of picking.  
**Cultivation Status:** Plantings - 2 records (3%).

**Atlassers Notes:**

Damage by herbivores? (NAH92052202);  
Destroyed by housing about 1996/7  
(AGR92030503); This population was wiped  
out - only skeletons seen code FC  
(AGRY1062604); Bushcut - ID from  
flowerhead remnants – horrific destruction!  
(IEBY1062601); Destroyed by housing  
about 1996/7 (NAH92052202); It is  
surprising that the species has survived  
(PVR94111701);  
Plus 1 dead (AGR99031301); 2 dead plants  
(LYM98052101);

Severe (30-50%) mortality - drought related? of  
many species in this area of sand plain  
fynbos – *S. aemula* particularly hard hit:  
about 30 % dead (NAHY0081902);

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

**Variation and Taxonomy:** The taxa *congesta*  
and *foeniculacea* are dealt with elsewhere.

**Distribution:** Add.

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***Serruria aemula* var. *congesta* (R. Br.) 1810 <comb not made>  
Macassar Spiderhead**

**Other Common Names:** None known.  
**Other Scientific Names:** *abrotanifolia* var. *minor* Andr. 1803, *arenaria* Salisb. ex Knight 1809, *congesta* R.Br. 1810, *emarginata* Sweet 1827, *phylicoides* Willd ex Meisn 1856.

**0 Records: Extinct**

**Red Data List Status:** Extinct, both in the wild and *ex situ*, last seen in 1985.

**Occurrence (Fynbos):** 0 km<sup>2</sup> with 0% conserved and 100% lost; Occupancy: 0 km<sup>2</sup> with 0% conserved and 100% lost. Fragmentation index: meaningless. Original occupancy about 50 km<sup>2</sup>.

**Population:** Probably Common and Frequent, but now extinct.

**Dispersion:** Probably Variable and Clumped.

**Flowering:** Probably Buds from Jul to Oct; Flowering from Oct; Peak Flowering not significant; Over from Nov; Fruit from Dec to Jun; Nothing from Feb to Apr. Historically not recorded.

**Growth:** Probably Much from Nov to Jun; Rare from Jul and Oct; None from Jul to Sep.

**Seedlings:** Probably No data.

**Fire Survival:** Probably surviving as seeds only.

**Age to first flowering:** Probably first flowers recorded at 1 year, 50% at 2-3 years and 100% at 7 years.

**Height:** Probably 5% 0-0.2 m tall, and 95 0.2-1 m tall.

**Pollinators:** Probably No data.

**Habitat:**

**Distance to Ocean:** All 100% inland – more than 2km from coast.

**Altitude:** Probably 20 - 120 m; 40 *lq* - 50 *med* - 60 *uq*m.

**Landform:** Probably 100% deep soil.

**Slope:** Probably 90% platform, 10% valley bottom.

**Aspect:** Probably 60% West, 40% South.

**Soil Type:** Probably 100% sandy.

**Soil Colour:** Probably 60 white, 40% grey.

**Geology:** Probably 90% Tertiary sands, 10% granite.

**Vegetation:** Probably 100% shrubland.

**Conservation Status and Threat:**

**Nature Reserves:** Probably 0% in nature reserves..

**Habitat destruction:** Probably 60% islands, 40% road reserves.

**Alien Invasive Species:** Probably 95% Fabaceae (chiefly alien *Acacia*), 5% annual grasses.

**Alien Density:** Probably 50% sparse, 50% abundant.

**Cultivation & Utilization:**

**Picking:** Probably no sign of picking.

**Cultivation Status:** Probably no noted cultivation.

**Atlassers Notes:** None.

**Confusing Species:** None noted, although there appears to be a gradation in size. During exceptional years robust specimens with many, robust flowerheads may occur throughout the range of the species, confusing identification.

**Variation and Taxonomy:** It was thought that this form occurred in the eastern end of the species distribution. However, odd specimens of a more robust nature do occur in the herbarium from the northern populations of *S. aemula*, although none were noted by atlassers or seen during extensive searches in the field.

**Distribution:** Add.

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## *Serruria foeniculacea* R.Br 1810 Rondevlei Spiderhead

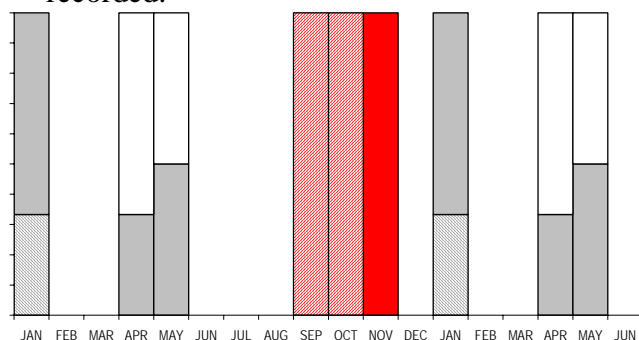
**Other Common Names:** None known.  
**Other Scientific Names:** *abrotanifolia* Andr 1803, *odorata* Andr 1803.

### 14 Records

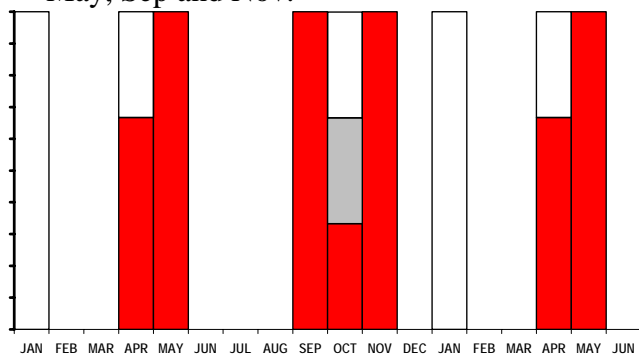
**Population** (7 records): 86% Frequent, 14% Rare.

**Dispersion** (7 records): 57% variable, 43% clumped.

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



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



**Seedlings** (5 records): All without any seedlings present.

**Fire Survival**: No data.

**Age to first flowering**: First flowers recorded at 6 years, no data from other veld ages.

**Height** (14 records): 100% 0.2-1 m tall.

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

**Detailed Pollinators**: No additional data.

### Habitat:

**Distance to Ocean** (6 records): 100% inland - further than 2 km from coast.

**Altitude** (6 records): 20 - 40 m; 0<sub>lq</sub> - 20<sub>med</sub> - 20<sub>uq</sub>m.

**Landform** (6 records): 100% deep soil.

**Slope** (6 records): 100% platform.

**Aspect** (0 records).

**Soil Type** (6 records): 100% sandy.

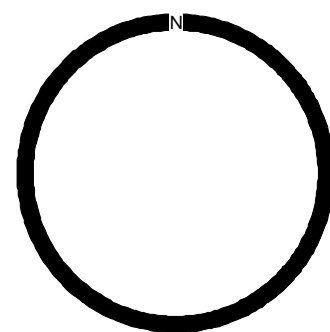
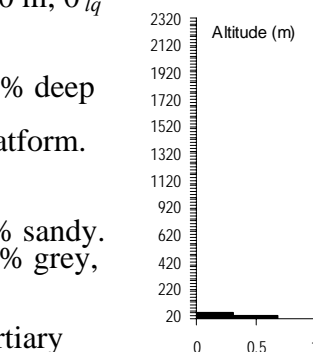
**Soil Colour** (6 records): 83% grey, 17% white.

**Geology** (6 records): 83% sandstone, 17% Tertiary sands.

**Vegetation** (6 records): 67% shrubland, 17% agricultural lands, 17% suburban.

### Conservation Status and Threat:

**Red Data List Status:** Critically Endangered A2c,



B1a(i,ii)b(i,ii,iii,iv,v)c(iv) + 2a(i,ii)b(i,ii,iii,iv,v)c(iv), C2a(i,ii)b, D.  
**Occurrence** (Fynbos): 1 km<sup>2</sup> with 29% conserved and 100% lost; **Occupancy**: 6 km<sup>2</sup> with 23% conserved and 67% lost. Fragmentation index meaningless.

**Nature Reserves** (6 records): 100% in nature reserves - well conserved.

**Habitat destruction** (6 records): 50% islands, 33% extensive natural habitat, 17% naturally fragmented habitats.

**Alien Invasive Species** (6 records): 100% Fabaceae (chiefly alien *Acacia*).

**Alien Density** (6 records): 83% sparse, 17% abundant.

### Cultivation & Utilization:

**Picking** (9 records): 100% no sign of picking.

**Cultivation Status**: Plantings - 7 records (50%), Augmentations - 5 records (36%).

### Atlasers Notes:

Also planted most along the walkways the biggest clump near the entrance gate (PVR Y0092001); Has been planted according to mr Dalton Gibbs of Rondevlei reserve. This had been known in the reserve and 340 have been planted (cuttings) many have survived a little above the vlei salty water level (WIJ95010601);

Also seen in the sanctuary from the road on the way to Zeekoeivlei (LYM95101401); This is one plant that had been known in the reserve (WIJ95010601);

Most of the plants are fenced and I counted 60 plants (NGF95112501);

**Confusing Species:** None known: might have been difficult to tell from *S. aemula* during historical times had their ranges abutted.

**Variation and Taxonomy:** Variously considered a subspecies of *S. aemula* or a full blown species. Definitely closely related.

**Distribution:** Add.

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*Serruria cyanoides* (L.) R.Br. 1753, 1810  
Wynberg Spiderhead

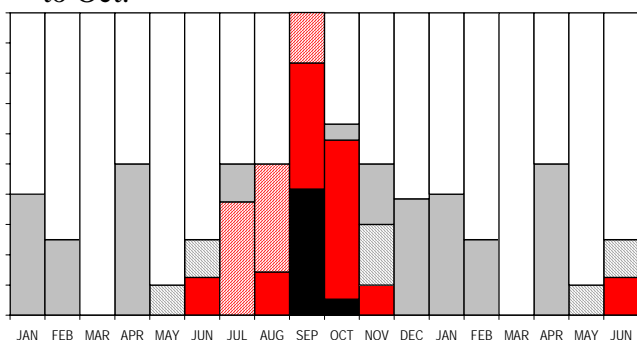
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**129 Records**

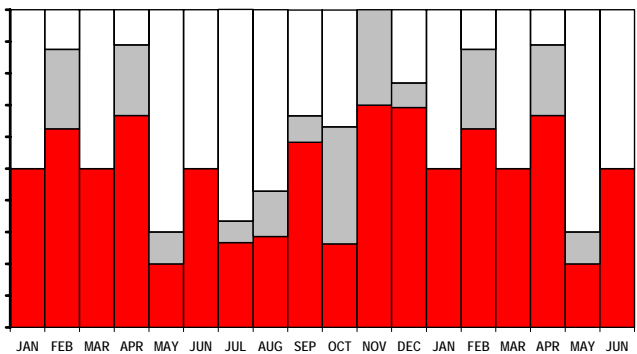
**Population** (129 records): 10% Common, 69% Frequent, 21% Rare.

**Dispersion** (117 records): 57% variable, 38% clumped, 5% evenly distributed.

**Flowering** (127 records with: Jan 5, Feb 8, Mar 2, Apr 10, May 10, Jun 8, Jul 16, Aug 14, Sep 12, Oct 19, Nov 10, Dec 13): Buds from Jul to Aug; Flowering from Sep to Oct; Peak Flowering from Sep; Over from Nov; Fruit from Nov to Feb and Apr; Nothing from Oct to Aug. Peak levels at 100% in Sep. Historically recorded as flowering from Jul to Oct.



**Growth** (126 records with: Jan 6, Feb 8, Mar 2, Apr 9, May 10, Jun 8, Jul 15, Aug 14, Sep 12, Oct 19, Nov 10, Dec 13): Much from all year round; Rare from Feb, Apr and Oct to Nov; None from Dec to Jan, Mar and May to Oct. Peak levels at 100% in Nov.



**Seedlings** (29 records): Absent in 93%; fewer seedlings than prefire adults in 1 case. Seedlings found in Oct.

**Fire Survival** (27 records): 96% resprouted from underground boles, 4% survived by seedlings only.

**Age to first flowering:** First flowers recorded at 1 year, 50% estimated at 1 year, 100% never recorded, with a maximum of 83% at 2 years and flowering ceasing after 4 years.



**Height** (128 records): 53% 0-0.2 m tall, 45% 0.2-1 m tall, 2% 1-2 m tall.

**Pollinators** (4 records): 50% bees or wasps, 25% flies, 25% beetles.

**Detailed Pollinators:** No additional data.

**Habitat:**

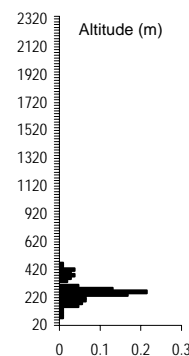
**Distance to Ocean** (107 records): 57% coastal - less than 2 km from coast.

**Altitude** (107 records): 60 - 460 m; 200 *lq* - 240 *med* - 260 *uq*m.

**Landform** (105 records): 85% deep soil, 11% shallow soil, 2% swamp, 2% rocky outcrops.

**Slope** (105 records): 63% gentle incline, 12% platform, 10% steep incline, 10% hill top, 4% valley bottom.

**Aspect** (86 records): 53% South, 22% West, 16% North, 9% East.

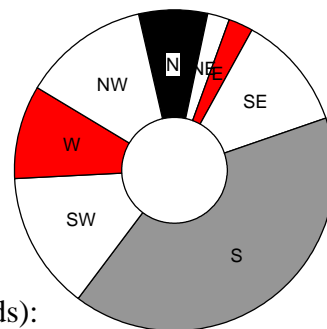


**Soil Type** (105 records): 95% sandy, 4% loamy, 1% gravelly.

**Soil Colour** (104 records): 81% grey, 12% brown, 8% white.

**Geology** (103 records): 89% sandstone, 5% silcrete or ferricrete, 5% Tertiary sands, 1% granite.

**Vegetation** (105 records): 99% shrubland, 1% grassland.



**Conservation Status and Threat:**

**Red Data List Status:** Endangered

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

Occurrence (Fynbos): 81 km<sup>2</sup> with 41% conserved and 40% lost; Occupancy: 31 km<sup>2</sup> with 37% conserved and 23% lost. Fragmentation index: 32%.

**Nature Reserves** (107 records): 56% in nature reserves - well conserved.

**Habitat destruction** (102 records): 94% extensive natural habitat, 5% islands, 1% corridors.

**Alien Invasive Species** (100 records): 54% Fabaceae (chiefly alien *Acacia*), 45% none, 1% Myrtaceae.

**Alien Density** (100 records): 45% alien-free, 46% sparse, 8% abundant, 1% dense.

**Cultivation & Utilization:**

**Picking** (82 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Already flowered even though veld just over 1 year old (AGRY0081903); The resprouting plants all covered in flowers to the extent that the foliage is hardly visible (CVV94091503); Resprouters covered with flowers (JID99082603);

Flowers very sparse (CVV97100401); Only a few plants in flower, the rest looked as if they would not flower (JAT95081602); Unburned veld: no flowers no buds and rare Growth (JID99082603); Most plants show no signs of flowering - only about 4 seen in flower (TLE95090203); Some plants were apparently well in flower last year but have no buds or flowers this year (WIJ96111701);

Leaves have 3-7 points each but Sasol Proteas says 7-11 inspection of specimens in Bolus Herbarium shows 2 specimens with 4-10 averaging 7-8 and 1 specimen with 3-4 points only: this is not a good criterion!

(TLE96101305); 3-8 points per leaf (TLE96102603);

Many plants revealed by fire! Previously only a few were seen here (AKS94072006); Only one plant noted (HCA92121301, HCA93111101);

So full of bees difficult to get close! (JID94092102);

**Confusing Species:** Misidentified with *S. hirsuta* (which is not a resprouter, and is far more robust), *S. fasciflora* and *S. inconspicua* (which are not resprouters and have compound flowerheads with small straight flowers), and *S. collina*, which is a resprouter but with trailing (not erect) stems and compound flowerheads.

Records of identification queries = 15.

Records of corrected identification queries = 4.

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

**Distribution:** Add.

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*Serruria furcellata* R.Br. 1810  
Kraaifontein Spiderhead

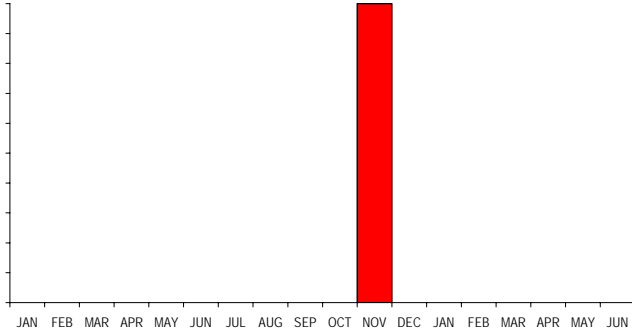
**Other Common Names:** None known.  
**Other Scientific Names:** None.

**1 Record**

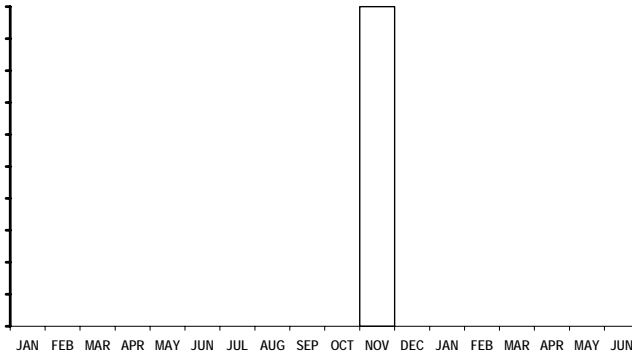
**Population** (1 record): 100% Rare.

**Dispersion** (0 records).

**Flowering** (1 record in Nov): Flowering from Nov; Buds, Peak Flowering, Over, Fruit and Nothing not recorded. Peak levels extremely unreliable at 100% in Nov. Historically recorded as flowering from Aug to Oct.



**Growth** (1 record in Nov): Much and Rare not recorded; None from Nov. Peak levels unknown.



**Seedlings** (1 record): All without any seedlings present.

**Fire Survival** : No data.

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

**Height** (1 record): 100% 0-0.2 m tall.

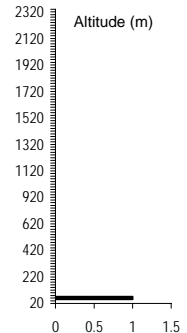
**Pollinators** (1 record): 100% beetles.

**Detailed Pollinators**: No additional data.

**Habitat:**

**Distance to Ocean** (1 record): 100% inland - further than 2 km from coast.

**Altitude** (1 record): 40 - 60 m; 40<sub>lq</sub> - 60<sub>med</sub> - 60<sub>uq</sub>m.



**Landform** (1 record):

100% deep soil.

**Slope** (1 record):

100% platform.

**Aspect** (0 records).

**Soil Type** (1 record):

100% sandy.

**Soil Colour** (1 record):

100% brown.

**Geology** (1 record):

100% Tertiary sands.

**Vegetation** (1 record): 100% shrubland.

**Conservation Status and Threat:**

**Red Data List Status:** Critically Endangered

A2c, B1a(i,ii)b(i,ii,iii,iv,v)c(iv)+2a(i,ii)b(i,ii,iii,iv,v)c(iv), C1+2a(i,ii)b, D. Occurrence (Fynbos): 1 km<sup>2</sup> with 0% conserved and 100% lost; Occupancy: 3 km<sup>2</sup> with 11% conserved and 100% lost. Fragmentation index meaningless.

**Nature Reserves** (1 record): 0% in nature reserves - unconserved.

**Habitat destruction** (1 record): 100% islands.

**Alien Invasive Species** (1 record): 100% Myrtaceae.

**Alien Density** (1 record): 100% sparse.

**Cultivation & Utilization:**

**Picking** (1 record): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:** None.

**Confusing Species:** None noted, but see below.

**Variation and Taxonomy:** Although distinct, this species has been lumped with *S. "ontongskopensis"*, which is a totally different beast.

**Distribution:** Add.

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*Serruria linearis* Salisb. ex Kn. 1809  
**Needle-leaf Spiderhead**  
*Grasspinnekopbos*

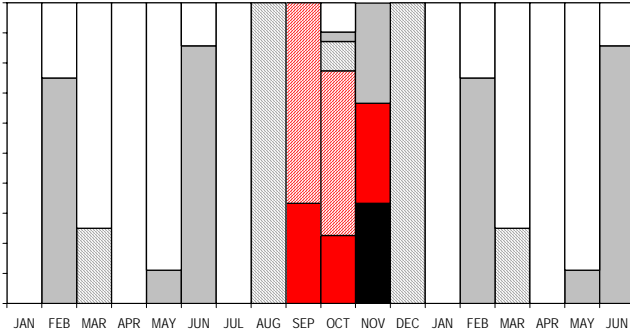
**Other Common Names:** Linear-leaf Serruria.  
**Other Scientific Names:** *plumigera* (Thunb) 1818, *simplicifolia* R.Br. 1810.

**91 Records**

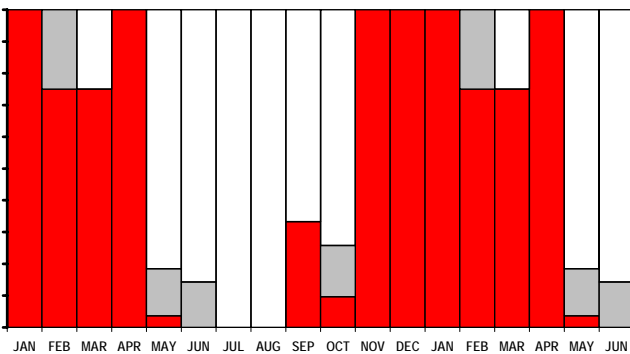
**Population** (90 records): 17% Common, 42% Frequent, 41% Rare.

**Dispersion** (75 records): 76% variable, 16% clumped, 5% evenly distributed, 3% widespread.

**Flowering** (91 records with: Jan 3, Feb 8, Mar 4, Apr 1, May 27, Jun 7, Jul 1, Aug 2, Sep 3, Oct 31, Nov 3, Dec 1): Buds from Sep to Oct; Flowering from Sep to Nov; Peak Flowering from Nov; Over from Mar, Aug and Dec; Fruit from Feb, Jun and Nov; Nothing from Jan to May. Peak levels at unreliable at 100% in Sep, probably better estimated at 87% in Oct. Historically recorded as flowering from Aug to Nov.



**Growth** (91 records with: Jan 3, Feb 8, Mar 4, Apr 1, May 27, Jun 7, Jul 1, Aug 2, Sep 3, Oct 31, Nov 3, Dec 1): Much from Nov to Apr and Sep; Rare from Feb; None from Mar to Oct. Peak levels at 100% from Nov to Jan.



**Seedlings** (40 records): Absent in 95%; more seedlings than prefire adults in 1 case. Seedlings found in Dec.

**Fire Survival** (9 records): 100% resprouted from underground boles.

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



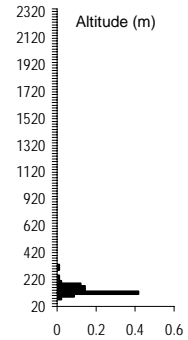
**Height** (91 records): 3% 0-0.2 m tall, 97% 0.2-1 m tall.

**Pollinators** (2 records): 50% flies, 50% beetles.  
**Detailed Pollinators** (1 record): Monkey Beetle.

**Habitat:**

**Distance to Ocean** (91 records): 100% inland - further than 2 km from coast.

**Altitude** (91 records): 60 - 320 m; 100<sub>lq</sub> - 120<sub>med</sub> - 120<sub>uq</sub>m.



**Landform** (91 records): 100% deep soil.

**Slope** (90 records): 56% platform, 23% gentle incline, 10% valley bottom, 6% dunes, 6% hill top.

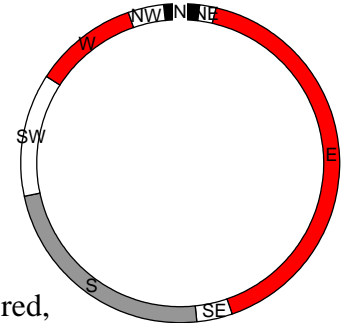
**Aspect** (56 records): 44% East, 30% South, 20% West, 6% North.

**Soil Type** (91 records): 96% sandy, 3% loamy, 1% clayey.

**Soil Colour** (89 records): 27% white, 25% grey, 19% brown, 16% yellow, 8% red, 6% orange.

**Geology** (86 records): 85% Tertiary sands, 7% sandstone, 6% silcrete or ferricrete, 2% shale.

**Vegetation** (91 records): 92% shrubland, 7% agricultural lands, 1% thicket.



**Conservation Status and Threat:**  
**Red Data List Status:** Endangered A4c.

**Occurrence** (Fynbos): 142 km<sup>2</sup> with 11% conserved and 42% lost; Occupancy: 83 km<sup>2</sup> with 20% conserved and 47% lost.

Fragmentation index: 43%.  
**Nature Reserves** (91 records): 44% in nature reserves.

**Habitat destruction** (89 records): 76% extensive natural habitat, 16% islands, 4% naturally linear habitats, 1% road verges, 1% corridors, 1% naturally fragmented habitats.

**Alien Invasive Species** (89 records):  
96% Fabaceae (chiefly alien *Acacia*),  
3% none, 1% *Pinus*.

**Alien Density** (89 records): 3% alien-free,  
51% sparse, 26% abundant, 18% dense,  
2% impenetrable.

**Cultivation & Utilization:**

**Picking** (72 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Heavily grazed ( ASP94072103);  
Growing in amongst the Acacias - large  
population (ADA92081802);

Geology mostly shale - proteas were on plumes  
of Tertiary sand (SMR99112401);

**Confusing Species:** Mistaken for *S. furcellata*  
which does not have linear terminal leaves..

Records of identification queries = 3.

Records of corrected identification queries = 1. .

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

**Distribution:** Add.

INCLUDEPICTURE

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*Serruria ontongskopensis* nomen nudum (?*diffusa* R. Br. 1810)  
**Ontongskop Spiderhead**

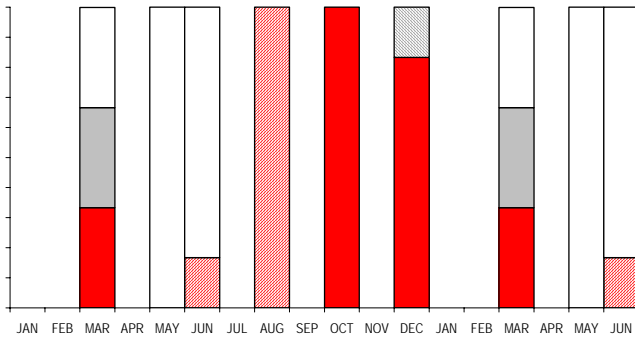
**Other Common Names:** None known.  
**Other Scientific Names:** *brownii* (Poir) 1816, *cyanoides* (Thunb) 1781, *diffusa* R. Br. 1810, *glomeratum* L. ex Meisn. 1856, *scariosa* Drege ex Meisn. 1856.

**29 Records**

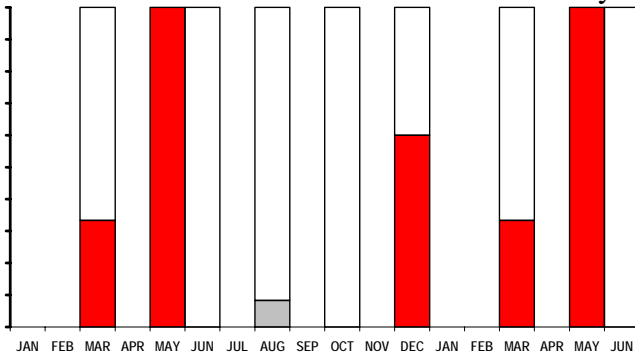
**Population** (29 records): 0% Common, 41% Frequent, 59% Rare.

**Dispersion** (23 records): 78% clumped, 22% variable.

**Flowering** (29 records with: Jan 0, Feb 0, Mar 3, Apr 0, May 1, Jun 6, Jul 0, Aug 12, Sep 0, Oct 1, Nov 0, Dec 6): Buds from Aug; Flowering from Oct to Mar; Peak Flowering not recorded; Over not significant; Fruit from Mar; Nothing from Mar to Jun. Peak levels at unreliable 100% in Oct. Historically not recorded.



**Growth** (28 records with: Jan 0, Feb 0, Mar 3, Apr 0, May 1, Jun 6, Jul 0, Aug 12, Sep 0, Oct 1, Nov 0, Dec 5): Much from Dec to May; Rare not significant; None from Jun to Mar. Peak levels unreliable at 100% in May.



**Seedlings** (13 records): Absent in 85%; more seedlings than prefire adults in 1 case. Seedlings found in Dec.

**Fire Survival** (4 records): 100% resprouted from underground boles.

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



**Height** (29 records): 28% 0-0.2 m tall, 72% 0.2-1 m tall.

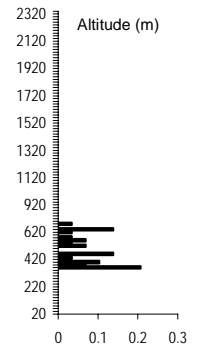
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (29 records): 100% inland - further than 2 km from coast.

**Altitude** (29 records): 340 - 680 m; 360<sub>lq</sub> - 440<sub>med</sub> - 520<sub>uq</sub>m.



**Landform** (29 records): 97% deep soil, 3% shallow soil.

**Slope** (29 records): 45% gentle incline, 28% platform, 17% hill top, 10% steep incline.

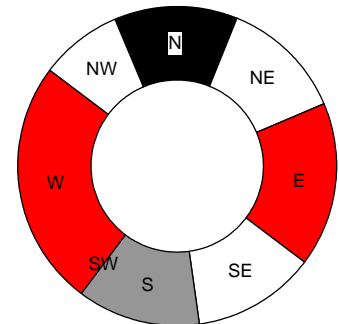
**Aspect** (24 records): 31% East, 29% West, 21% North, 19% South.

**Soil Type** (29 records): 59% sandy, 21% gravelly, 10% clayey, 7% loamy, 3% rocky.

**Soil Colour** (28 records): 36% grey, 32% brown, 21% white, 4% yellow, 4% orange, 4% red.

**Geology** (29 records): 79% sandstone, 21% shale.

**Vegetation** (29 records): 100% shrubland.



**Conservation Status and Threat:**

**Red Data List Status:** Vulnerable C2a(i), D. Occurrence (Fynbos): 31 km<sup>2</sup> with 32% conserved and 18% lost; Occupancy: 29 km<sup>2</sup> with 40% conserved and 9% lost. Fragmentation index: 88%.

**Nature Reserves** (29 records): 55% in nature reserves - well conserved.

**Habitat destruction** (29 records): 100% extensive natural habitat.

**Alien Invasive Species** (29 records): 59% *Pinus*, 31% none, 10% *Hakea*.

**Alien Density** (29 records): 31% alien-free, 69% sparse.

**Cultivation & Utilization:**

**Picking** (27 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Witch's Broom Infestation:** 1 record (3%).

**Atlassers Notes:**

About 80 plants (NAH96081003);  
About 75 plants counted one of which had  
about 150 flowerheads (SHR95121701);  
Fasciation in linear bands with dense  
outgrowths of leaves - Witches Broom?  
(AGR96081010);

**Confusing Species:** Identified initially by John  
Rourke as *S. furcellata* and in the herbarium  
as *S. gracilis*, but differing from the former  
in having linear terminal leaves and quite  
different involucre bracts, and from the

latter in being an erect resprouter, not a  
creeping mat.  
Records of identification queries = 29.

**Variation and Taxonomy:** This is a new  
species somewhat intermediate between *S.*  
*furcellata* and *S. linearis*, but distinct from  
both

**Distribution:** Add.

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*Serruria triloba* Salisb. ex Kn. 1809  
**Trident Spiderhead**

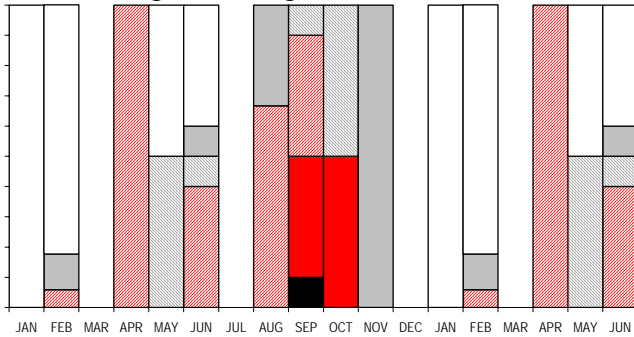
**Other Common Names:** Sand Serruria, Snake-stem Spiderhead, Three-crested Serruria.  
**Other Scientific Names:** *arenaria* R.Br. 1810, *phylicoides* (Willd.) 1813.

**52 Records**

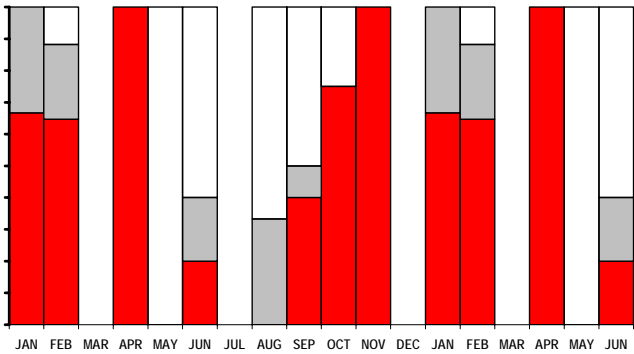
**Population** (49 records): 8% Common, 45% Frequent, 45% Rare, 2% Extinct.

**Dispersion** (35 records): 89% variable, 9% clumped, 3% evenly distributed.

**Flowering** (51 records with: Jan 3, Feb 17, Mar 0, Apr 1, May 2, Jun 10, Jul 0, Aug 3, Sep 10, Oct 4, Nov 1, Dec 0): Buds from Apr to Sep; Flowering from Sep to Oct; Peak Flowering not significant; Over from Oct; Fruit from Aug and Nov; Nothing from Jan to Jun. Peak levels unreliable at 100% from Sep to Oct. Historically recorded as flowering from Aug to Oct.



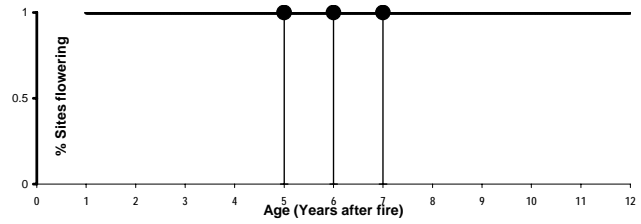
**Growth** (51 records with: Jan 3, Feb 17, Mar 0, Apr 1, May 2, Jun 10, Jul 0, Aug 3, Sep 10, Oct 4, Nov 1, Dec 0): Much from Sep to Apr; Rare from Jan to and Jun to Aug; None from May to Oct. Peak levels unreliable at 100% in Nov.



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

**Fire Survival** (9 records): 100% resprouted from underground boles.

**Age to first flowering:** First flowers recorded at 100% at 5 years, no data from younger veld.



**Height** (50 records): 10% 0-0.2 m tall, 90% 0.2-1 m tall.

**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

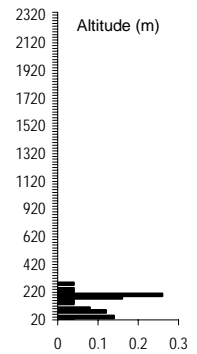
**Distance to Ocean** (48 records): 100% inland - further than 2 km from coast.

**Altitude** (48 records): 20 - 280 m; 60<sub>lq</sub> - 140<sub>med</sub> - 180<sub>uq</sub>m.

**Landform** (48 records): 100% deep soil.

**Slope** (48 records): 60% gentle incline, 38% platform, 2% hill top.

**Aspect** (35 records): 77% West, 17% South, 6% East.

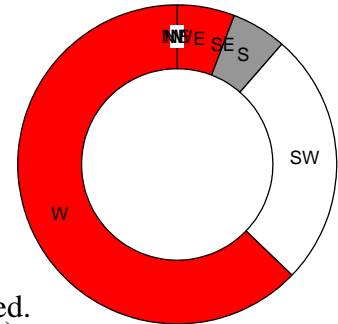


**Soil Type** (48 records): 94% sandy, 6% loamy.

**Soil Colour** (48 records): 44% grey, 31% white, 13% brown, 6% yellow, 4% orange, 2% red.

**Geology** (45 records): 67% Tertiary sands, 18% sandstone, 9% shale, 7% granite.

**Vegetation** (48 records): 98% shrubland, 2% agricultural lands.



**Conservation Status and Threat:**

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

**Occurrence (Fynbos):** 177 km<sup>2</sup> with 1% conserved and 64% lost; **Occupancy:** 49 km<sup>2</sup> with 1% conserved and 65% lost. **Fragmentation index:** 11%.

**Nature Reserves** (48 records): 15% in nature reserves - inadequately conserved.

**Habitat destruction** (48 records): 52% extensive natural habitat, 42% islands, 4% road verges, 2% corridors.

**Alien Invasive Species** (47 records): 91% Fabaceae (chiefly alien *Acacia*), 6% none, 2% *Pinus*.

**Alien Density** (47 records): 6% alien-free, 36% sparse, 36% abundant, 17% dense, 4% impenetrable.

**Cultivation & Utilization:**

**Picking** (44 records): 100% no sign of picking.  
**Cultivation Status:** Plantings - 2 records (4%).

**Atlassers Notes:**

All planted : sources : Se Tril : 6 B K D  
(AGR94101202); Planted according to Mr  
Dalton Gibbs of Rondevlei Reserve –  
previously known in Grassy Park area. These  
plants are less than 1 year old  
(WIJ95010601);

**Confusing Species:** Misidentified with *S.*  
*aemua*, which is single-stemmed.

Records of identification queries = 4.

Records of corrected identification queries = 1.

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

**Distribution:** Add.

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*Serruria gracilis* Salisb. ex Kn. 1809  
**Fine Spiderhead**

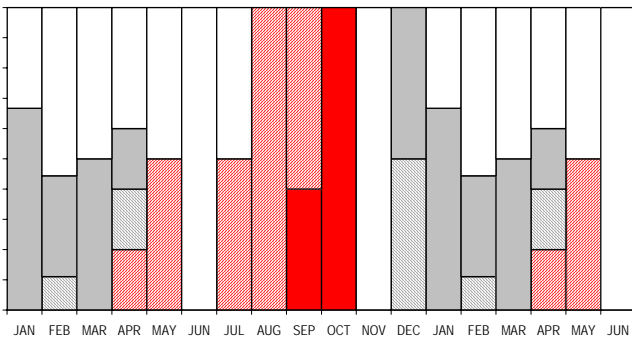
**Other Common Names:** None known.  
**Other Scientific Names:** *pinnata* (Andr.) 1803,  
*pinnata* var *longifolia* Meisn. 1856.

**41 Records**

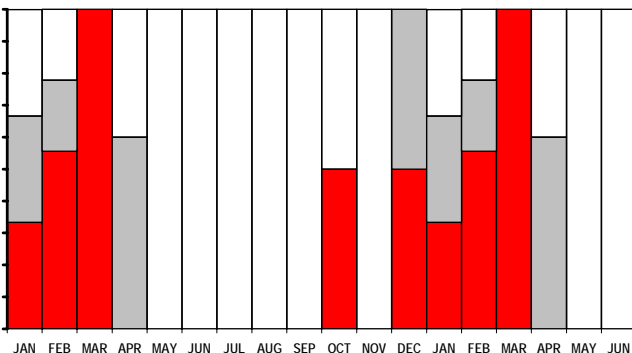
**Population** (35 records): 9% Common, 66% Frequent, 26% Rare.

**Dispersion** (32 records): 69% clumped, 31% variable.

**Flowering** (41 records with: Jan 6, Feb 9, Mar 2, Apr 5, May 2, Jun 1, Jul 2, Aug 4, Sep 5, Oct 2, Nov 1, Dec 2): Buds from Apr to Sep; Flowering from Sep to Oct; Peak Flowering not recorded; Over from Apr and Dec; Fruit from Dec to Apr; Nothing from Jan to Jul and Nov. Peak levels unreliable at 100% in Oct. Historically recorded as flowering from Jul to Oct.



**Growth** (40 records with: Jan 6, Feb 9, Mar 2, Apr 5, May 2, Jun 1, Jul 2, Aug 4, Sep 4, Oct 2, Nov 1, Dec 2): Much from Oct to Mar; Rare from Dec to Feb and Apr; None from Jan to Feb and Apr to Nov. Peak levels unreliable at 100% in Mar.



**Seedlings** (8 records): Absent in 75%; fewer seedlings than prefire adults in 1 case. Seedlings found in Apr.

**Fire Survival** : No data.

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



**Height** (38 records): 97% 0-0.2 m tall, 3% 0.2-1 m tall.

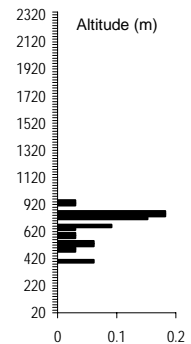
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (33 records): 100% inland - further than 2 km from coast.

**Altitude** (33 records): 380 - 840 m; 560<sub>lq</sub> - 720<sub>med</sub> - 720<sub>uq</sub> m.



**Landform** (33 records): 94% deep soil, 6% shallow soil.

**Slope** (33 records): 45% gentle incline, 42% steep incline, 9% hill top, 3% platform.

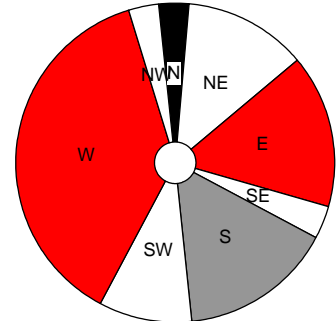
**Aspect** (32 records): 42% West, 23% East, 22% South, 13% North.

**Soil Type** (32 records): 53% loamy, 22% sandy, 16% gravelly, 6% clayey, 3% rocky.

**Soil Colour** (32 records): 75% brown, 19% grey, 3% yellow, 3% orange.

**Geology** (31 records): 55% granite, 39% sandstone, 6% shale.

**Vegetation** (33 records): 97% shrubland, 3% thicket.



**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 184 km<sup>2</sup> with 56% conserved and 20% lost; **Occupancy:** 26 km<sup>2</sup> with 41% conserved and 15% lost. **Fragmentation index:** 13%.

**Nature Reserves** (33 records): 45% in nature reserves.

**Habitat destruction** (33 records): 94% extensive natural habitat, 3% road verges, 3% naturally fragmented habitats.

**Alien Invasive Species** (33 records): 64% *Pinus*, 21% Fabaceae (chiefly alien *Acacia*), 9% none, 6% *Hakea*.

**Alien Density** (33 records): 9% alien-free, 70% sparse, 15% abundant, 6% dense.

**Cultivation & Utilization:****Picking** (31 records): 100% no sign of picking.**Cultivation Status:** No noted cultivation.**Atlassers Notes:** None.**Confusing Species:** Misidentified as *S. cygnea* when not in flower.

Records of identification queries = 12.

Records of corrected identification queries = 1.

**Variation and Taxonomy:** Previously considered as synonymous with *S. pinnata*, but the growth habits and sizes are quite distinct, although might be argued to be subspecies.**Distribution:** Add.

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*Serruria pinnata* R.Br. 1810  
Graceful Spiderhead

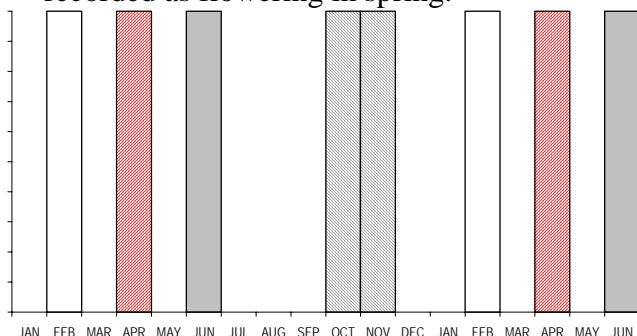
**Other Common Names:** Slender Serruria.  
**Other Scientific Names:** None.

**8 Records**

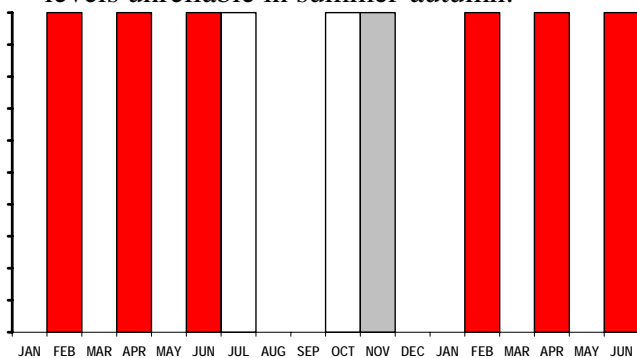
**Population** (8 records): 88% Rare, 13% Extinct.

**Dispersion** (5 records): 80% clumped, 20% variable.

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



**Growth** (7 records with: Jan 0, Feb 2, Mar 0, Apr 1, May 0, Jun 1, Jul 1, Aug 0, Sep 0, Oct 1, Nov 1, Dec 0): Much from Feb to Jun; Rare from Nov; None from Jul to Oct. Peak levels unreliable in summer-autumn.



**Seedlings** (3 records): All without any seedlings present.

**Fire Survival** : No data.

**Age to first flowering:** First flowers recorded at 21 years, no data from younger veld

**Height** (7 records): 71% 0-0.2 m tall, 29% 0.2-1 m tall.

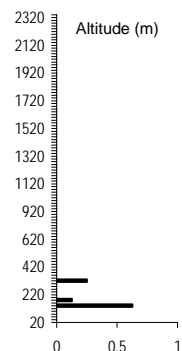
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

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

**Altitude** (8 records): 120 - 320 m; 120<sub>lq</sub> - 140<sub>med</sub> - 140<sub>uq</sub>m.



**Landform** (8 records): 100% deep soil.

**Slope** (8 records): 75% gentle incline, 25% platform.

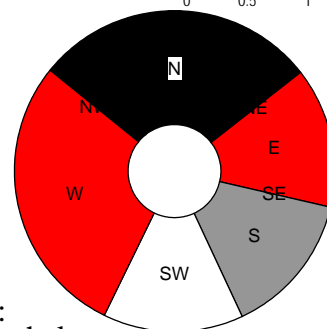
**Aspect** (7 records): 36% West, 29% North, 21% South, 14% East.

**Soil Type** (8 records): 75% loamy, 13% sandy, 13% gravelly.

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

**Geology** (8 records): 63% granite, 25% shale, 13% sandstone.

**Vegetation** (8 records): 88% shrubland, 13% grassland.



**Conservation Status and Threat:**

**Red Data List Status:** Critically Endangered C2a(i)b, D.

**Occurrence** (Fynbos): 4 km<sup>2</sup> with 6% conserved and 58% lost; **Occupancy:** 9 km<sup>2</sup> with 3% conserved and 74% lost. **Fragmentation index:** 90%.

**Nature Reserves** (8 records): 63% in nature reserves - well conserved.

**Habitat destruction** (8 records): 63% islands, 25% extensive natural habitat, 13% patches.

**Alien Invasive Species** (8 records): 63% Fabaceae (chiefly alien *Acacia*), 25% *Pinus*, 13% Myrtaceae.

**Alien Density** (8 records): 100% sparse.

**Cultivation & Utilization:**

**Picking** (7 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Some in flower the outer petals were bent back and orange coloured - looked like pollen on anthers (SMRY1101808);

In 2 clumps - by dam NE of entrance and S of island south dam (AGR96041104); Could not be found at this site even though AGR96041104 and LYM97111901 recorded this species here. the site burnt in January 2000 and although is recovering reasonably well no *S. pinnata* could be found after a 4 hour search (NGFY1011301);

Height barely 2 - plants swamped by tall undergrowth: there may be more but we did

spend quite a while looking  
(SMRY1101808);  
Has a rootstock and prefers sandier areas  
(NGFY1022703);

**Confusing Species:** Originally atlassed as *S. gracilis*, until both species had been atlassed and the differences noted.

Records of identification queries = 3.  
Records of corrected identification queries = 2.

**Variation and Taxonomy:** Closely related to *S. gracilis* and perhaps a subspecies, but

clearly requiring some taxonomic status. However, unlike *S. gracilis* which is delicate and forms a mat, *S. pinnata* occurs more as “ropes” on the ground, and is much more robust. The outer petals mimicking anthers is quite distinctive.

**Distribution:** Add.

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## *Serruria stellata* Rourke 1991 Star Spiderhead

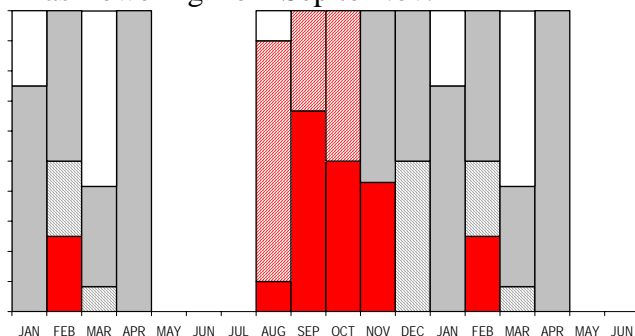
**Other Common Names:** None known.  
**Other Scientific Names:** None.

### 63 Records

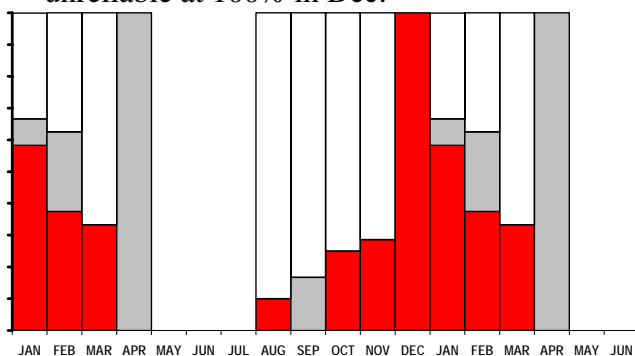
**Population** (62 records): 6% Common, 45% Frequent, 48% Rare.

**Dispersion** (49 records): 51% clumped, 47% variable, 2% widespread.

**Flowering** (62 records with: Jan 12, Feb 8, Mar 12, Apr 1, May 0, Jun 0, Jul 0, Aug 10, Sep 6, Oct 4, Nov 7, Dec 2): Buds from Aug to Oct; Flowering from Feb and Sep to Nov; Peak Flowering not recorded; Over from Feb and Dec; Fruit from Nov to Apr; Nothing from Jan and Mar. Peak levels unreliable at 100% from Sep to Oct. Historically recorded as flowering from Sep to Nov.



**Growth** (62 records with: Jan 12, Feb 8, Mar 12, Apr 1, May 0, Jun 0, Jul 0, Aug 10, Sep 6, Oct 4, Nov 7, Dec 2): Much from Oct to Mar; Rare from Feb and Apr; None from Jan to Mar and Aug to Nov. Peak levels unreliable at 100% in Dec.



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

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

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



**Height** (63 records): 56% 0-0.2 m tall, 44% 0.2-1 m tall.

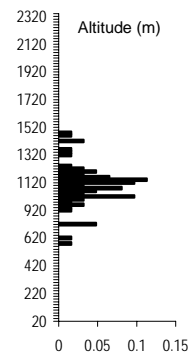
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

### Habitat:

**Distance to Ocean** (62 records): 100% inland - further than 2 km from coast.

**Altitude** (62 records): 560 - 1380 m; 900<sub>lq</sub> - 980<sub>med</sub> - 1020<sub>uq</sub>m.



**Landform** (62 records): 85% deep soil, 11% shallow soil, 3% rocky outcrops.

**Slope** (61 records): 57% gentle incline, 31% steep incline, 8% platform, 3% hill top.

**Aspect** (58 records): 51% North, 23% East, 15% West, 11% South.

### Soil Type

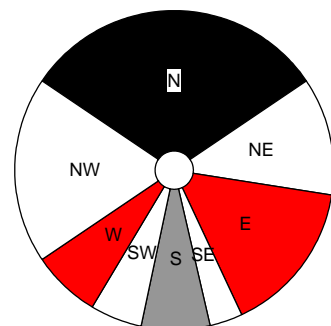
(61 records): 52% sandy, 20% loamy, 18% gravelly, 7% clayey, 3% rocky.

### Soil Colour

(62 records): 55% grey, 34% brown, 5% orange, 3% white, 3% yellow.

**Geology** (61 records): 69% sandstone, 31% shale.

**Vegetation** (61 records): 98% shrubland, 2% grassland.



### Conservation Status and Threat:

**Red Data List Status:** Vulnerable D2(ii).

Occurrence (Fynbos): 218 km<sup>2</sup> with 49% conserved and 1% lost; Occupancy: 46 km<sup>2</sup> with 19% conserved and 0% lost. Fragmentation index: 17%.

**Nature Reserves** (62 records): 11% in nature reserves - inadequately conserved.

**Habitat destruction** (61 records): 93% extensive natural habitat, 2% islands, 2% corridors, 2% naturally linear habitats, 2% naturally fragmented habitats.

### Alien Invasive Species

(62 records): 68% *Hakea*, 23% none, 10% *Pinus*.

**Alien Density** (62 records): 23% alien-free, 71% sparse, 5% abundant, 2% dense.

### Cultivation & Utilization:

**Picking** (48 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

**Atlassers Notes:** None.

**Confusing Species:** One instance of atlassed as  
“creeping *S. phylloides*”.  
Records of identification queries = 4.  
Records of corrected identification queries = 1.

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

**Distribution:** Add.

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*Serruria florida* (Thunb.) Salisb. ex Kn. 1781, 1809

**Blushing Bride**

*Trots van Franshoek*

**Other Common Names:** Florid Serruria, Pride of Franschoek, *Bergbruidjie*, *Bruidsblom*, *Skaambloom*.

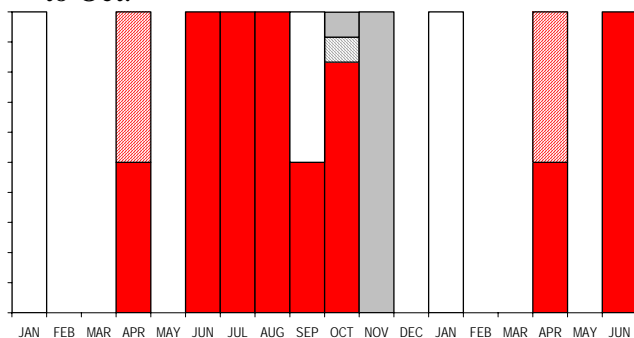
**Other Scientific Names:** None.

**32 Records**

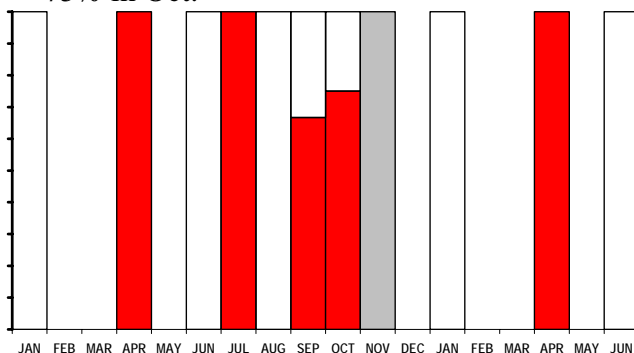
**Population** (18 records): 6% Common, 67% Frequent, 28% Rare.

**Dispersion** (16 records): 63% clumped, 38% variable.

**Flowering** (30 records with: Jan 1, Feb 0, Mar 0, Apr 2, May 0, Jun 4, Jul 1, Aug 3, Sep 6, Oct 12, Nov 1, Dec 0): Buds from Apr; Flowering from Apr to Oct; Peak Flowering not recorded; Over not significant; Fruit from Nov; Nothing from Jan and Sep. Peak levels unreliable at 100% from Jul to Aug. Historically recorded as flowering from Jul to Oct.



**Growth** (29 records with: Jan 1, Feb 0, Mar 0, Apr 1, May 0, Jun 4, Jul 1, Aug 3, Sep 6, Oct 12, Nov 1, Dec 0): Much from Apr, Jul and Sep to Oct; Rare from Nov; None from Jan, Jun and Aug to Oct. Peak levels unreliable at 100% from Apr and Jul, more reliably at 75% in Oct.



**Seedlings** (14 records): All without any seedlings present.

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

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



**Height** (29 records): 3% 0-0.2 m tall, 28% 0.2-1 m tall, 69% 1-2 m tall.

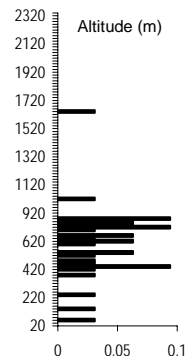
**Pollinators** (4 records): 50% bees or wasps, 50% beetles.

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

**Habitat:**

**Distance to Ocean** (18 records): 100% inland - further than 2 km from coast.

**Altitude** (18 records): 360 - 760 m; 440 *lq* - 540 *med* - 640 *uq*m.



**Landform** (18 records): 94% deep soil, 6% shallow soil.

**Slope** (18 records): 50% steep incline, 50% gentle incline.

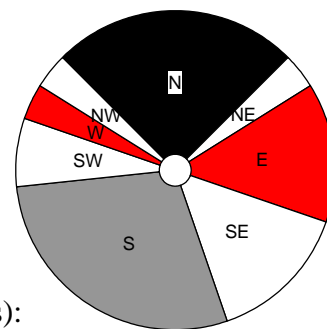
**Aspect** (18 records): 56% South, 39% North, 6% West.

**Soil Type** (18 records): 50% loamy, 44% sandy, 6% peaty.

**Soil Colour** (18 records): 61% grey, 28% brown, 11% black.

**Geology** (18 records): 67% sandstone, 22% granite, 11% shale.

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



**Conservation Status and Threat:**

**Red Data List Status:** Critically Endangered B1a(i)b(i,ii,iii,iv,v)c(iv)+ 2a(i)b(i,ii,iii,iv,v)c(iv).

**Occurrence** (Fynbos): 8 km<sup>2</sup> with 91% conserved and 1% lost; **Occupancy:** 14 km<sup>2</sup> with 95% conserved and 0% lost. Fragmentation index meaningless.

**Nature Reserves** (18 records): 67% in nature reserves - well conserved.

**Habitat destruction** (18 records): 89% extensive natural habitat, 11% naturally linear habitats.

**Alien Invasive Species** (18 records): 61% *Pinus*, 22% *Hakea*, 17% none.

**Alien Density** (18 records): 17% alien-free, 61% sparse, 11% abundant, 11% dense.

**Cultivation & Utilization:**

**Picking** (22 records): 91% no sign of picking, 5% lightly picked, 5% severely picked.

**Cultivation Status:** Plantings - 14 records (44%).

**Atlassers Notes:**

The plants caught in the fire were over a metre high (MAJ92071601);

One plant about 0.5 m was seen in flower in the few years old veld - a few other plants were seen with no flowers (MAJ92071601);

Within the 2 veld ages were 2 patches of old veld that escaped both fires and had the 5 plants recorded on this site - whew! (MAJ92071601);

One of the plants had recently been picked! (MAJ92071601)!;

Plants found By Fiona Powrie - 1 escapee in full flower, others no flowers - on roadside: none found in plantations per se. Obviously rest of population wiped out by fire (AGRY0090305);

**Confusing Species:** None.

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

**Distribution:** Add.

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*Serruria heterophylla* Meisn. 1856  
Spindly Spiderhead

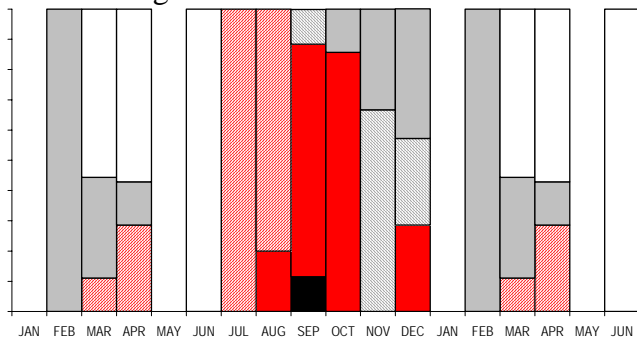
**Other Common Names:** None known.  
**Other Scientific Names:** *aemua* var. *heterophylla* Hutch. 1912.

**84 Records**

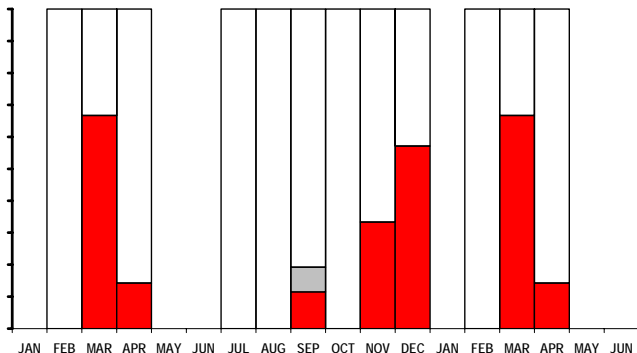
**Population** (83 records): 19% Common, 65% Frequent, 16% Rare.

**Dispersion** (78 records): 58% variable, 37% clumped, 4% widespread, 1% evenly distributed.

**Flowering** (83 records with: Jan 0, Feb 1, Mar 9, Apr 7, May 0, Jun 1, Jul 7, Aug 15, Sep 26, Oct 7, Nov 3, Dec 7): Buds from Apr and Jul to Aug; Flowering from Aug to Oct and Dec; Peak Flowering not significant; Over from Nov to Dec; Fruit from Nov to Mar; Nothing from Mar to Jun. Peak levels at 100% in Sep. Historically recorded as flowering from Jul to Oct.



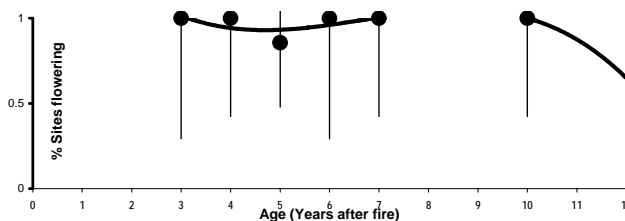
**Growth** (82 records with: Jan 0, Feb 1, Mar 9, Apr 7, May 0, Jun 0, Jul 7, Aug 15, Sep 26, Oct 7, Nov 3, Dec 7): Much from Mar and Nov to Dec; Rare not significant; None from all year round. Peak levels unreliable at 67% in Mar.



**Seedlings** (41 records): All without any seedlings present.

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

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



**Height** (83 records): 12% 0-0.2 m tall, 86% 0.2-1 m tall, 2% 1-2 m tall.

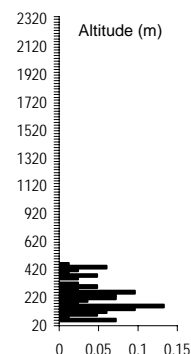
**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

**Habitat:**

**Distance to Ocean** (83 records): 63% coastal - less than 2 km from coast.

**Altitude** (83 records): 40 - 460 m; 120<sub>lq</sub> - 160<sub>med</sub> - 220<sub>uq</sub> m.



**Landform** (83 records):

81% deep soil, 10% rocky outcrops, 10% shallow soil.

**Slope** (83 records): 53% gentle incline, 45% steep incline, 1% hill top, 1% platform.

**Aspect** (82 records): 60% South, 21% West, 13% East, 5% North.

**Soil Type** (83 records):

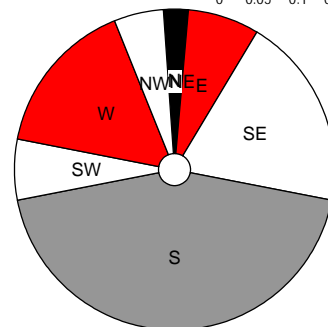
54% sandy, 20% loamy, 12% clayey, 6% gravelly, 5% rocky, 2% peaty.

**Soil Colour** (82 records):

57% grey, 27% brown, 7% orange, 5% black, 2% white, 1% red.

**Geology** (83 records): 73% sandstone, 19% shale, 5% conglomerate, 2% silcrete or ferricrete.

**Vegetation** (83 records): 100% shrubland.



**Conservation Status and Threat:**

**Red Data List Status:** Endangered B2a(ii)b(ii,iii,v).

**Occurrence** (Fynbos): 75 km<sup>2</sup> with 12% conserved and 34% lost; **Occupancy:** 43km<sup>2</sup> with 30% conserved and 22% lost. **Fragmentation index:** 41%.

**Nature Reserves** (83 records): 45% in nature reserves.

**Habitat destruction** (83 records): 96% extensive natural habitat, 2% naturally linear habitats, 1% road verges.

**Alien Invasive Species** (81 records): 46% none, 22% *Pinus*, 15% Fabaceae (chiefly alien *Acacia*), 12% *Hakea*, 5% Myrtaceae.

**Alien Density** (81 records): 46% alien-free, 48% sparse, 6% abundant.

**Cultivation & Utilization:**

**Picking** (52 records): 100% no sign of picking.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

Single stemmed below but definitely linear upper leaves! (AGR94082904); Is not resprouter at this locality (SHR93091204);

**Confusing Species:** This species is supposed to be a resprouter. However, *S. phyllicoides* also appears to have forms – especially on the Riviersonderend with upper linear leaves: these have been dealt with separately.

Records of identification queries = 38.

Records of corrected identification queries = 32.

**Variation and Taxonomy:** No variation noted, other than some confusion with the linear-leaf form of *S. phyllicoides*.

**Distribution:** Add.

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*Serruria phyllicoides* (Bergius) R.Br. 1766, 1810

**Bearded Spiderhead**

*Donsigespinnekopbos*

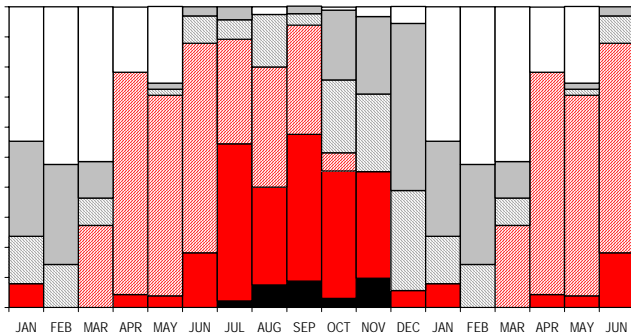
**Other Common Names:** Bearded Serruria, Downy Spiderhead, Silky Spiderhead.  
**Other Scientific Names:** *abrotaniifolia* (Andr) 1803, *barbigera* Salisb. ex Knight 1809, *eriocephala* Steud 1841, *glomerata* Thib. ex Meisn 1856, *nitida* R. Br. 1810, *parilis* Salisb. ex Knight 1809, *serraria* (Burm ex Meisn) 1856, *squarrosa* R. Br. 1810.

**518 Records**

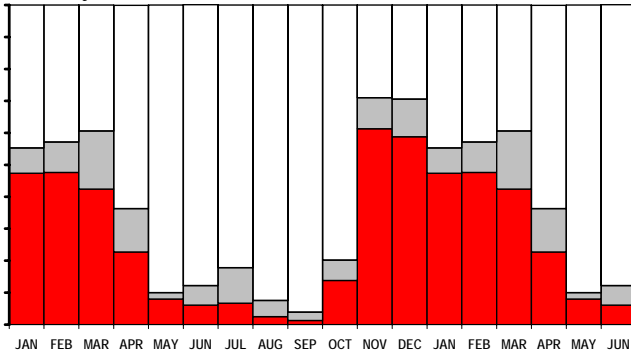
**Population** (515 records): 17% Common, 66% Frequent, 17% Rare.

**Dispersion** (473 records): 65% variable, 27% clumped, 7% widespread.

**Flowering** (513 records with: Jan 38, Feb 21, Mar 33, Apr 23, May 51, Jun 33, Jul 46, Aug 40, Sep 80, Oct 99, Nov 31, Dec 18): Buds from Mar to Sep; Flowering from Jul to Nov; Peak Flowering not significant; Over from Oct to Dec; Fruit from Oct to Feb; Nothing from Jan to May. Peak levels at 98% in Sep. Historically recorded as flowering from Aug to Nov.



**Growth** (501 records with: Jan 38, Feb 21, Mar 33, Apr 22, May 50, Jun 33, Jul 45, Aug 40, Sep 77, Oct 94, Nov 31, Dec 17): Much from Nov to Apr; Rare not significant; None from all year round. Peak levels at 71% in Nov.



**Seedlings** (240 records): Absent in 96%; fewer seedlings than prefire adults in 3 cases, and more in 2 cases. Seedlings found in Feb, Jun, Jul and Oct (2).

**Fire Survival** (13 records): 69% survived by seedlings only, 31% eliminated from the area by fires.

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



**Height** (515 records): 6% 0-0.2 m tall, 93% 0.2-1 m tall, 1% 1-2 m tall.

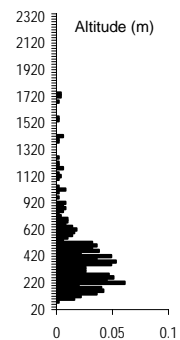
**Pollinators** (5 records): 80% beetles, 20% bees or wasps.

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

**Habitat:**

**Distance to Ocean** (506 records): 97% inland - further than 2 km from coast.

**Altitude** (506 records): 60 - 1640 m; 220 *lq* - 340 *med* - 460 *uq*m.



**Landform** (505 records): 83% deep soil, 14% shallow soil, 2% rocky outcrops.

**Slope** (505 records): 62% gentle incline, 29% steep incline, 5% hill top, 4% platform.

**Aspect** (472 records): 35% South, 24% North, 24% West, 16% East.

**Soil Type** (505 records):

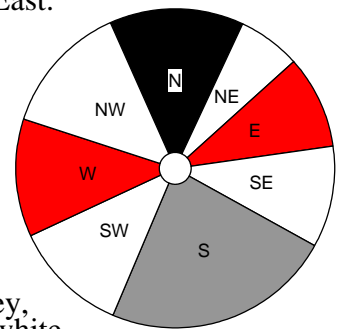
61% sandy, 21% loamy, 9% gravelly, 5% clayey, 3% rocky, 1% peaty.

**Soil Colour** (504 records):

59% grey, 26% brown, 5% white, 4% orange, 3% black, 3% yellow.

**Geology** (485 records): 81% sandstone, 15% shale, 2% silcrete or ferricrete.

**Vegetation** (505 records): 97% shrubland, 2% plantations.



**Conservation Status and Threat:**

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

**Occurrence** (Fynbos): 3 288 km<sup>2</sup> with 33% conserved and 22% lost; **Occupancy:** 489 km<sup>2</sup> with 40% conserved and 15% lost. **Fragmentation index:** 9%.

**Nature Reserves** (506 records): 43% in nature reserves.

**Habitat destruction** (498 records): 93% extensive natural habitat, 5% islands.



**Alien Invasive Species** (497 records):

53% *Pinus*, 18% *Hakea*, 17% none,  
11% Fabaceae (chiefly alien *Acacia*),  
2% Myrtaceae.

**Alien Density** (496 records): 17% alien-free,  
63% sparse, 16% abundant, 5% dense.

**Cultivation & Utilization:**

**Picking** (362 records): 100% no sign of  
picking, 0.3% lightly picked.

**Cultivation Status:** No noted cultivation.

**Witch's Broom Infestation:** 1 record (0.2%).

**Atlasers Notes:**

Flowers were mainly over but there were some  
buds and many flowers still had vertical  
centres - like Cornflowers (CHE96081503);

Quite unusual head tight with broader than  
usual but fewer basal bracts a very robust  
head - plant very densely leaved - an  
interesting variant (NAHY1011102); High  
Altitude Form (SHR97091409);

Site deep ripped – obviously likes it - lots of  
young (ASP92092208); Bulldozed for new  
tar road (PAP92060803);

One plant has fasciation like Witches Broom -  
(ASP92092005)

**Confusing Species:** Confused with *S.*  
*rostellaris* (which has inconspicuous basal  
bracts), *S. acrocarpa* (when not in flower)  
and *Spatalla barbiger*a (a totally different  
plant – probably in error for *Serruria*  
*barbiger*a).

Records of identification queries = 36.

Records of corrected identification queries = 4.

**Variation and Taxonomy:** There is a clear  
altitudinal variation, with **lower altitude XX**  
**and higher altitude XX**. A form from  
Stettynsberg probably also requires  
recognition: it is a smaller plant with much  
smaller leaves and bigger than normal  
involucral bracts, suggesting an affinity to *S.*  
*rosea*.

**Distribution:** Add.

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## *Serruria phyllicoides rosea/heter* form

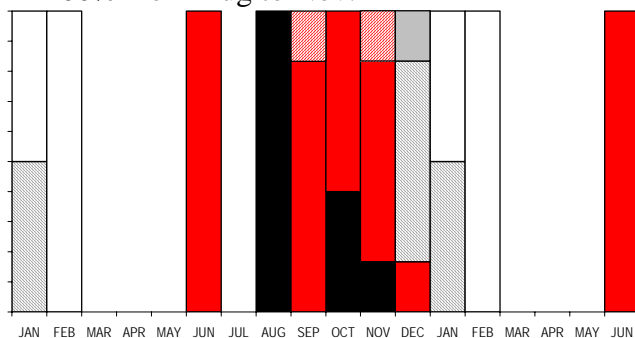
**Other Common Names:** None known.  
**Other Scientific Names:** *None*.

### 30 Records

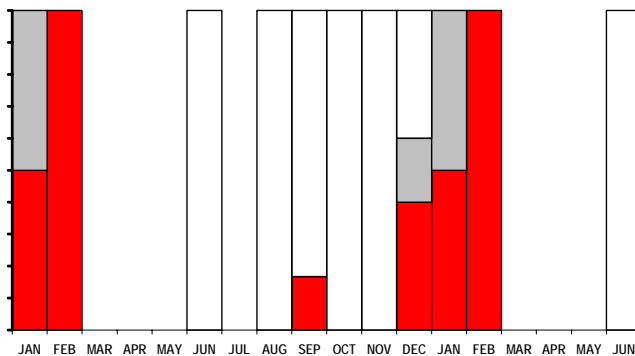
**Population** (30 records): 17% Common, 50% Frequent, 33% Rare.

**Dispersion** (28 records): 64% clumped, 29% variable, 7% widespread.

**Flowering** (30 records with: Jan 2, Feb 3, Mar 0, Apr 0, May 0, Jun 1, Jul 0, Aug 1, Sep 6, Oct 5, Nov 6, Dec 6): Buds not significant; Flowering from Jun and Sep to Nov; Peak Flowering from Aug and Oct; Over from Dec to Jan; Fruit not significant; Nothing from Jan to Feb. Peak levels unreliable at 100% from Aug to Nov.



**Growth** (28 records with: Jan 2, Feb 3, Mar 0, Apr 0, May 0, Jun 1, Jul 0, Aug 1, Sep 6, Oct 4, Nov 6, Dec 5): Much from Dec to Feb; Rare from Dec to Jan; None from Jun to Dec. Peak levels unreliable at 100% in Feb.



**Seedlings** (10 records): All without any seedlings present.

**Fire Survival** (2 records): 100% survived by seedlings only.

**Age to first flowering:** First flowers recorded at 100% at 6 years, no data from younger veld.



**Height** (30 records): 80% 0.2-1 m tall, 20% 1-2 m tall.

**Pollinators:** No data.

**Detailed Pollinators:** No additional data.

### Habitat:

**Distance to Ocean** (30 records): 100% inland - further than 2 km from coast.

**Altitude** (30 records): 340 - 1220 m; 660<sub>lq</sub> - 860<sub>med</sub> - 880<sub>uq</sub>m.

**Landform** (30 records): 73% deep soil, 17% shallow soil, 10% rocky outcrops.

**Slope** (30 records): 53% steep incline, 43% gentle incline, 3% platform.

**Aspect** (30 records): 75% South, 18% East, 3% North, 3% West.

**Soil Type** (30 records): 37% sandy, 23% peaty, 20% gravelly, 10% loamy, 7% clayey, 3% rocky.

**Soil Colour** (29 records): 45% grey, 31% black, 21% brown, 3% orange.

**Geology** (30 records): 83% sandstone, 17% shale.

**Vegetation** (30 records): 87% shrubland, 7% thicket, 3% grassland, 3% plantations.

### Conservation Status and Threat:

**Red Data List Status:** Not Evaluated. Data Not available.

**Nature Reserves** (30 records): 63% in nature reserves - well conserved.

**Habitat destruction** (30 records): 87% extensive natural habitat, 7% islands, 3% road verges, 3% naturally linear habitats.

**Alien Invasive Species** (30 records): 67% *Pinus*, 27% none, 7% *Hakea*.

**Alien Density** (30 records): 27% alien-free, 57% sparse, 10% abundant, 3% dense, 3% impenetrable.

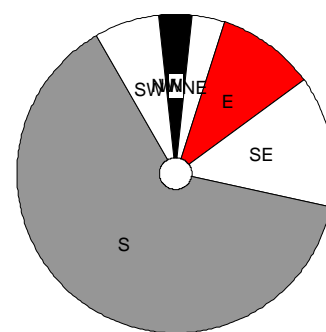
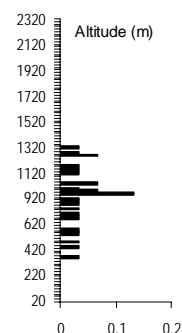
### Cultivation & Utilization:

**Picking** (23 records): 100% no sign of picking.  
**Cultivation Status:** No noted cultivation.

### Atlassers Notes:

This very interesting range extension was made in the company of Dr Rourke who has a herbarium specimen of this - about 80 plants in 2 small discrete populations (NAH98110501);

**Confusing Species:** See variation and taxonomy. This is a very sparsely branched form of *S. phyllicoides*, with linear terminal leaves, thus superficially resembling *S. heterophylla*. It has been atlassed as both, but with notes by atlassers as to its differences, and also as *S. rosea*.



Records of identification queries = 30.  
Records of corrected identification queries = 30.

**Variation and Taxonomy:** Although not a resprouter this form is far too erect and robust for *S. phylloides* and has very reduced leaves like *S. heterophylla*. It is

probably a new species, but as part of the *S. phylloides* complex.

**Distribution:** Add.

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# Serruria rosea Phill. 1933

## Rose Spiderhead

### Stroomeisie

**Other Common Names:** Bridesmaid Spiderhead, *Bruidsbos*.

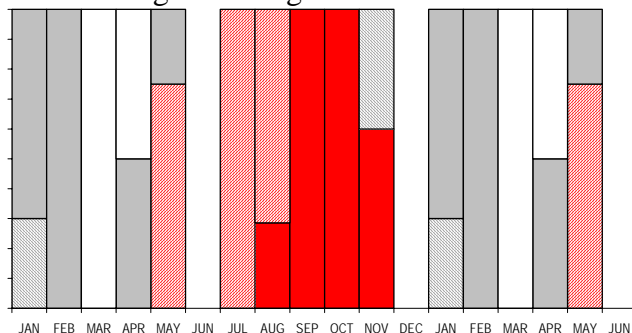
**Other Scientific Names:** *aemula* R.Br. 1810, *furcellata* E.Mey. ex Drege 1844, *subcorymbosa* Meisn. 1856.

#### 54 Records

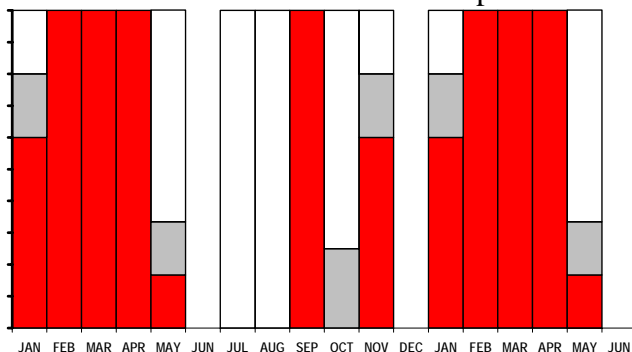
**Population** (54 records): 33% Common, 52% Frequent, 15% Rare.

**Dispersion** (51 records): 49% clumped, 47% variable, 2% evenly distributed, 2% widespread.

**Flowering** (54 records with: Jan 10, Feb 1, Mar 1, Apr 2, May 12, Jun 0, Jul 4, Aug 14, Sep 1, Oct 4, Nov 5, Dec 0): Buds from May to Aug; Flowering from Aug to Nov; Peak Flowering not recorded; Over from Nov to Jan; Fruit from Jan to May; Nothing from Mar to Apr. Peak levels unreliable at 100% from Sep to Oct. Historically recorded as flowering from Aug to Oct.



**Growth** (54 records with: Jan 10, Feb 1, Mar 1, Apr 2, May 12, Jun 0, Jul 4, Aug 14, Sep 1, Oct 4, Nov 5, Dec 0): Much from Jan to Apr, Sep and Nov; Rare from Jan and Oct to Nov; None from May to Jan. Peak levels unreliable at 100% from Feb to Apr.



**Seedlings** (31 records): All without any seedlings present.

**Fire Survival** : No data.

**Age to first flowering:** First flowers recorded at 100% at 4 years, no data from younger veld.



**Height** (54 records): 89% 0.2-1 m tall, 11% 1-2 m tall.

**Pollinators** (6 records): 67% beetles, 33% bees or wasps.

**Detailed Pollinators** (5 records): Monkey Beetle (3), Honey Bee, Great Protea Beetle.

#### Habitat:

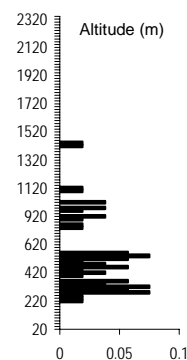
**Distance to Ocean** (53 records): 100% inland - further than 2 km from coast.

**Altitude** (53 records): 200 - 1340 m; 300 *lq* - 440 *med* - 540 *uq*m.

**Landform** (53 records): 85% deep soil, 9% shallow soil, 6% rocky outcrops.

**Slope** (53 records): 53% gentle incline, 45% steep incline, 2% hill top.

**Aspect** (51 records): 28% South, 28% West, 23% North, 21% East.

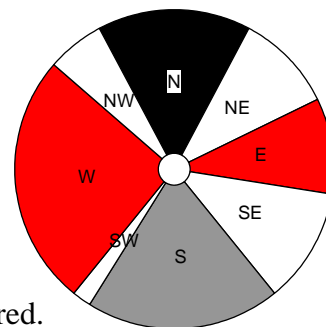


**Soil Type** (53 records): 36% sandy, 30% loamy, 26% gravelly, 8% rocky.

**Soil Colour** (53 records): 58% brown, 21% grey, 17% orange, 4% red.

**Geology** (53 records): 60% sandstone, 21% shale, 13% granite, 6% silcrete or ferricrete.

**Vegetation** (53 records): 83% shrubland, 17% plantations.



#### Conservation Status and Threat:

**Red Data List Status:** Near Threatened D2(i). Occurrence (Fynbos): 261 km<sup>2</sup> with 67% conserved and 6% lost; Occupancy: 51 km<sup>2</sup> with 60% conserved and 20% lost. Fragmentation index: 19%.

**Nature Reserves** (53 records): 45% in nature reserves.

**Habitat destruction** (53 records): 98% extensive natural habitat, 2% islands.

**Alien Invasive Species** (53 records): 47% *Pinus*, 42% *Hakea*, 8% Fabaceae

(chiefly alien *Acacia*), 2% Myrtaceae,  
2% none.

**Alien Density** (53 records): 2% alien-free,  
64% sparse, 28% abundant, 6% dense.

**Cultivation & Utilization:**

**Picking** (47 records): 98% no sign of picking,  
2% lightly picked.

**Cultivation Status:** No noted cultivation.

**Atlassers Notes:**

A spectacular form getting close to *S. florida* in  
size and shape of its use bracts but still erect  
and leaves far too small (AGRY1102013);  
These were carefully re-examined and found  
to match the description of *S. florida* in all  
respects: No on subsequent visits found to be  
*S. rosea* - a large bracted form with good  
horticultural potential! (WIJ98012401);  
11 plants only 2 of which had all their  
flowerheads (only) cut off (WIJ98012401);  
Quite a few dead plants (WMP98050309);

Big black hairy Monkey Beetles  
(AGR97081303);

**Confusing Species:** Easily recognized and  
quite distinct. Non-flowering plants  
confused with *S. phylloides* and *S.*  
*acrocarpa*. A large-bracted form from The  
Cascades was confused with *S. florida*.

Records of identification queries = 6.

Records of corrected identification queries = 3.

**Variation and Taxonomy:** A large-bracted  
form was noted at The Cascades,  
DuToitskloof.

**Distribution:** Add.

INCLUDEPICTURE

"C:\\temp\\atlas\\SEROSE\_m.jpg" \\*

MERGEFORMAT \d