

SubFamily Grevilleoideae

Only Brabejum

And invasives: Banksia, Grevillea, Hakea.

Banksia L. f. 1782

About 75 species in Australia. Although several species have been identified as potentially invasive in South Africa, only the Needle-leaf Banksia *B. ericifolia* was recorded as spreading. The following Banksias were Atlased, but only from cultivated protea orchards, but sample sizes are too small to warrant inclusion:

B. baxterii R.Br., *B. coccinea* R.Br., *B. ericifolia* L.f., *B. hookeriana* Meissner, *B. integrifolia* L.f., *B. speciosa* R.Br., *B. sphaerocephala* R.Br..

The type is *B. serrata* L.f. Saw Banksia. Named after Sir Joseph Banks (1743-1820) the botanist on Captain Cook's voyage who collected the first specimen in the genus in 1770.

Grevillea R. Br. 1810

The following Grevilleas were Atlased, but only from cultivated protea orchards, but sample sizes are too small to warrant inclusion:

Grevillea juniperina R.Br

The type is *G. aspleniifolia* (Salisb ex Knight), but a proposal to change it to *G. pteridifolia* (Salisb ex Knight) Golden Grevillea has been suggested. Named after the Right Honorable Charles Greville (1749-1809), one of the founders of the Royal Horticultural Society in 1804, and responsible for the introduction of the Geranium (*Pelargonium*) in horticulture in the UK.

Hakea Scrad. 1795

Apart from the four invasive Hakea species, the following species were recorded in cultivation:

Hakea petiolaris Meisn. and *Hakea victoria* Drummond

The type is *Hakea glabra* Scrad. which is a synonym for *H. teretifolia* (Salisb.) J. Britten the Dagger Hakea. Named after Baron Christian von Hake (1745-1818), a German patron of botany and councilor from Hanover, where H. Scrad. resided.

Banksia ericifolia L.f. 1782

Needle-leaf Banksia

Other Common Names: Heath-leaved Banksia, Heath Banksia.

Other Scientific Names: *B. phyllicifolia* Salisb. ex Knight 1809.

12 Records

Population (1 record): Rare.

Dispersion (0 records).

Flowering (11 records with: Jan 1, Feb 1, Mar 1, Apr 0, May 1, Jun 0, Jul 0, Aug 2, Sep 3, Oct 0, Nov 2, Dec 0): Buds from Feb; Flowering from Aug to Nov; Peak Flowering from Sep; Over from Sep; Fruit from Jan, May and Nov; Nothing from Mar. Historically recorded as flowering from Feb to Oct.

Growth (11 records with: Jan 1, Feb 1, Mar 1, Apr 0, May 1, Jun 0, Jul 0, Aug 2, Sep 3, Oct 0, Nov 2, Dec 0): Much from Jan; None from Feb, Mar, May, Aug, Sep and Nov.

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

Fire Survival : No data.

Age to first flowering: One record of flowering at 21 years.

Height (11 records): 18% 1-2 m tall, 64% 2-5 m tall, 18% taller than 5 m.

Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (1 record): inland - further than 2 km from coast.

Altitude (1 record): 580 - 600 m; 580_{lq} - 600_{med} - 600_{ug}m.

Landform (1 record): deep soil.

Slope (1 record): gentle incline.

Aspect (1 records): 50% East, 50% South.

Soil Type (1 record): clayey.

Soil Colour (1 record): brown.

Geology (1 record): sandstone.

Vegetation (1 record): shrubland.

Conservation Status and Threat:

Red Data List Status: Not applicable.

Nature Reserves (1 record): 0% in nature reserves.

Habitat destruction (1 record): extensive natural habitat.

Alien Invasive Species (1 record): other aliens.

Alien Density (1 record): sparse.

Cultivation & Utilization:

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

Cultivation Status: Plantings - 10 records (83%), Escapes - 1 record (8%).

Atlassers Notes:

Planted As A Hedge (HRK97021001);

Has escaped - *i.e.* young plants were found in veld (LYM97081603).

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Grevillea banksii R.Br. 1810
Scarlet Silky Oak

Other Common Names: Banks' Grevillea, Dwarf Silky Oak, Red Silky Oak, Red-flower Silky Oak.

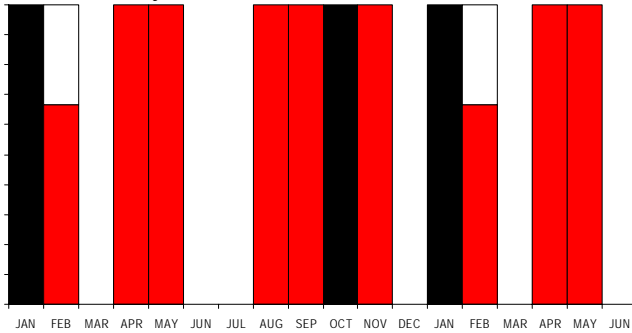
Other Scientific Names: *None*.

15 Records

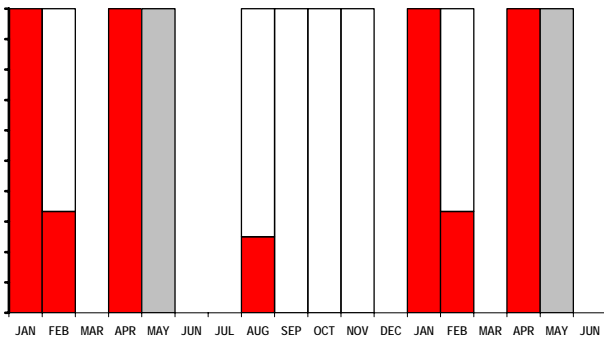
Population (9 records): 22% Common, 56% Frequent, 22% Rare.

Dispersion (9 records): 56% clumped, 33% variable, 11% evenly distributed.

Flowering (15 records with: Jan 1, Feb 3, Mar 0, Apr 1, May 1, Jun 0, Jul 0, Aug 5, Sep 2, Oct 1, Nov 1, Dec 0): Buds not recorded Flowering from Feb and Apr to Sep and Nov; Peak Flowering from Jan and Oct; Over and Fruit not recorded; Nothing from Feb. Inadequate data to determine Peak levels. Historically recorded as flowering from all year round in Australia.



Growth (14 records with: Jan 1, Feb 3, Mar 0, Apr 1, May 1, Jun 0, Jul 0, Aug 4, Sep 2, Oct 1, Nov 1, Dec 0): Much from Jan to Apr and Aug; Rare from May; None from Feb and Aug to Nov. Inadequate data to determine Peak levels.



Seedlings (4 records): Absent in 50%: more seedlings than prefire adults in 1 case. Seedlings found in Oct.

Fire Survival (4 records): 50% resprouted from aerial trunks, 25% escaped fires in fire-safe areas, 25% resprouted from underground boles.

Age to first flowering: A resprouter flowering in the first year post fire with 100% recorded at 1 year.

Height (15 records): 7% 0.2-1 m tall, 60% 1-2 m tall, 33% 2-5 m tall.

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

Detailed Pollinators (3 records): Honey Bee, Greater Double-collared Sunbird, Amethyst Sunbird.

Habitat:

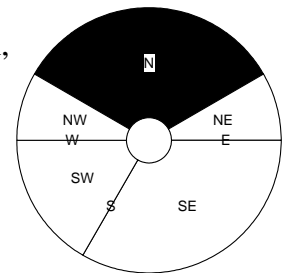
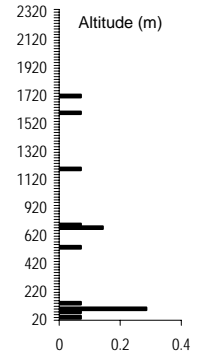
Distance to Ocean (8 records): 63% coastal - less than 2 km from coast.

Altitude (8 records): 20 - 1620 m; 80_{lq} - 100_{med} - 100_{uq}m.

Landform (7 records): 86% deep soil, 14% shallow soil.

Slope (8 records): 63% gentle incline, 25% hill top, 13% steep incline.

Aspect (7 records): 43% North, 29% South, 21% East, 7% West.



Soil Type (8 records): 63% sandy, 25% loamy, 13% gravelly.

Soil Colour (8 records): 50% brown, 25% red, 13% grey, 13% orange.

Geology (8 records): 50% Tertiary sands, 25% sandstone, 13% shale, 13% granite.

Vegetation (8 records): 50% grassland, 25% wooded grassland, 25% shrubland.

Conservation Status and Threat:

Red Data List Status: Alien Invader Category 1.

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

Habitat destruction (7 records): 86% extensive natural habitat, 14% islands.

Alien Invasive Species (8 records): 38% *Hakea*, 25% other aliens, 13% Fabaceae (chiefly alien *Acacia*), 13% *Pinus*, 13% none.

Alien Density (8 records): 13% alien-free, 38% sparse, 25% abundant, 25% dense.

Cultivation & Utilization:

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

Cultivation Status: Plantings - 6 records (40%).

Atlassers Notes:

• Seems to escape fire damage by excluding grass growth, although isolated plants survive in grassland. Strongly invasive-thickets, which although still limited are firmly established, and particularly dense along drainage lines (ATA93041102);

Confusing Species: Caused by lack of guides.

Records of identification queries = 3.

Records of corrected identification queries = 1.

Variation and Taxonomy: Extremely variable in Australia. It is uncertain which varieties or forms are problematic here.

Distribution: Add.

INCLUDEPICTURE
"C:\\temp\\atlas\\GRBANK_m.jpg" *
MERGEFORMAT \d

Grevillea robusta A. Cunn. ex R.Br. 1810
Silky Oak

Other Common Names: Silver Oak, Southern Silky Oak, *Ha'iki*, *He-oka*, *Ke'oke'o*, *Oka-kilika* (Hawaiian!).

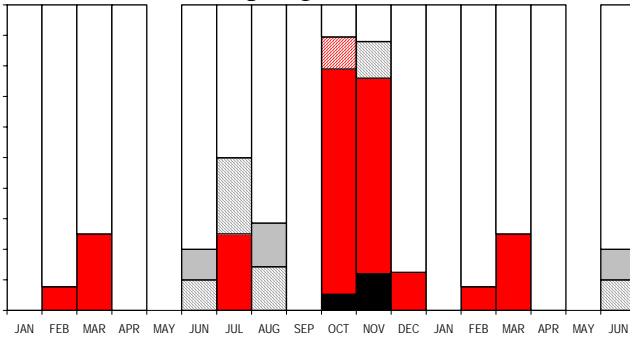
Other Scientific Names: *umbratica* A. Cunn. <date>.

122 Records

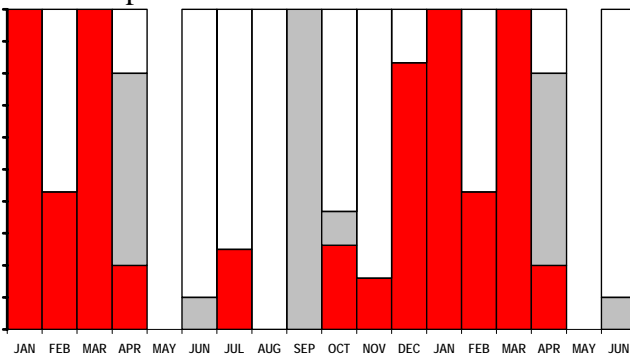
Population (78 records): 1% Common, 51% Frequent, 47% Rare.

Dispersion (46 records): 50% variable, 50% clumped.

Flowering (97 records with: Jan 1, Feb 13, Mar 4, Apr 5, May 0, Jun 10, Jul 4, Aug 7, Sep 1, Oct 19, Nov 25, Dec 8): Buds from Oct; Flowering from Mar and Jul and Oct to Dec; Peak Flowering from Nov; Over from Jul to Aug and Nov; Fruit from Jun and Aug; Nothing from Dec to Sep. Peak levels at 90% in Oct. Historically recorded as flowering in Australia from spring.



Growth (93 records with: Jan 1, Feb 14, Mar 2, Apr 5, May 0, Jun 10, Jul 4, Aug 6, Sep 1, Oct 19, Nov 25, Dec 6): Much from Dec to Apr and Jul and Oct; Rare from Apr to Jun and Sep; None from Feb and Apr to Aug and Oct to Nov. Peak levels at 100% in Jan, Mar and Sep.



Seedlings (24 records): All without any seedlings present.

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

Age to first flowering: Data unreliable as most records from protected plantings within sites.

Height (112 records): 2% 0.2-1 m tall, 4% 1-2 m tall, 21% 2-5 m tall, 74% taller than 5 m.

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

Detailed Pollinators: No additional data.

Habitat:

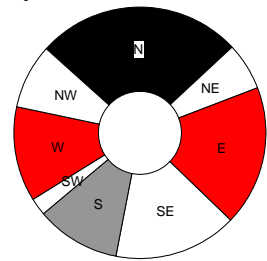
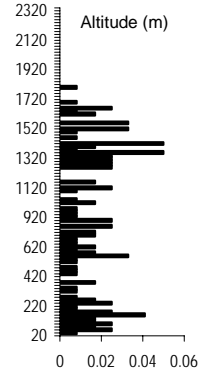
Distance to Ocean (78 records): 97% inland - further than 2 km from coast.

Altitude (78 records): 20 - 1700 m; 360_{lq} - 760_{med} - 1160_{uq}m.

Landform (71 records): 93% deep soil, 4% riverine, 3% shallow soil.

Slope (70 records): 61% gentle incline, 14% steep incline, 14% platform, 10% valley bottom.

Aspect (55 records): 35% North, 31% East, 19% South, 15% West.



Soil Type (66 records): 47% sandy, 44% loamy, 5% clayey, 3% rocky, 2% gravelly.

Soil Colour (61 records): 38% brown, 25% grey, 25% red, 10% orange, 3% yellow.

Geology (46 records): 59% sandstone, 28% granite, 9% shale, 4% Tertiary sands.

Vegetation (70 records): 30% shrubland, 27% wooded grassland, 16% woodland, 9% suburban, 7% grassland, 7% agricultural lands, 4% plantations.

Conservation Status and Threat:

Red Data List Status: Alien Invader Category 1.

Nature Reserves (78 records): 12% in nature reserves - inadequately conserved.

Habitat destruction (71 records): 48% extensive natural habitat, 25% islands, 18% road verges, 6% naturally linear habitats, 3% naturally fragmented habitats.

Alien Invasive Species (56 records): 23% other aliens, 21% Fabaceae (chiefly alien *Acacia*), 21% none, 18% *Pinus*, 16% Myrtaceae.

Alien Density (56 records): 21% alien-free, 50% sparse, 16% abundant, 13% dense.

Cultivation & Utilization:

Picking (47 records): 100% no sign of picking.
Cultivation Status: Plantings - 43 records (35%).

Atlasers Notes:

- The single tree in the arboretum was not flowering even though in the suburbia of Bergvliet and Meadowridge plants are in full flower - perhaps the arboretum's canopy upsets the flowering pattern? (NGFY0102201);
- Thick stands occur further down river - is being eradicated (MCG96080701); Many small plants - naturalization taking place (RHEY0111207); Have started to naturalize from seed source in original planted lane (RHE99080706).

Confusing Species: None.
Records of identification queries = 2

Variation and Taxonomy: None noted.

Distribution: Add.
INCLUDEPICTURE
"C:\\temp\\atlas\\GRROBU_m.jpg" *
MERGEFORMAT \d

Hakea drupacea (Gaertn. F.) Roemer & Schult. ???

Sweet Needlebush

Soetspeldebos

Other Common Names: Sweet-scented Needlebush, *Soethakea*.

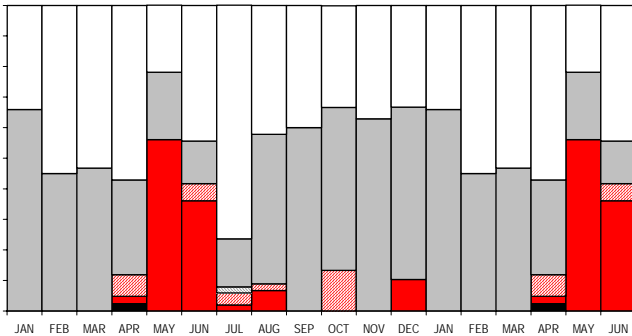
Other Scientific Names: *pectinata* Colla, *suaveolens* (R.Br.) 1810.

518 Records

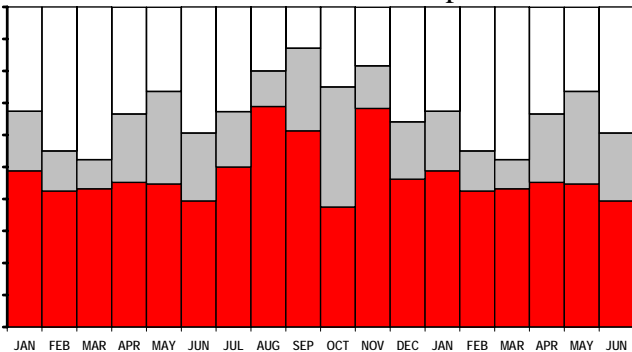
Population (511 records): 2% Abundant, 15% Common, 44% Frequent, 39% Rare, 2% Extinct.

Dispersion (379 records): 68% variable, 30% clumped, 2% widespread, 0.3% evenly distributed.

Flowering (492 records with: Jan 44, Feb 40, Mar 47, Apr 42, May 41, Jun 36, Jul 51, Aug 45, Sep 30, Oct 15, Nov 62, Dec 39): Buds infrequent; Flowering from May to Jun; Peak Flowering from Apr; Over from infrequent; Fruit retained from all year round; Nothing from all year round. Peak levels at 56% in May. Historically recorded as flowering in Australia from winter.



Growth (483 records with: Jan 43, Feb 40, Mar 44, Apr 42, May 38, Jun 33, Jul 52, Aug 45, Sep 31, Oct 16, Nov 60, Dec 39): Much from all year round, with a slight peak in Jul to Nov; Rare from all year round, with a slight peak in Sep to Oct; None from all year round. Peak levels at 87% in Sep.

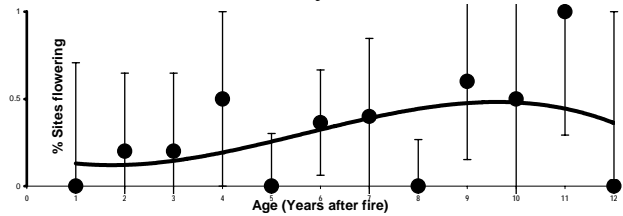


Seedlings (198 records): Absent in 96%; fewer seedlings than prefire adults in 1 case, and more in 3 cases. Seedlings found in Feb, Jul (2) and Nov.

Fire Survival (23 records): 83% survived by seedlings only, 9% resprouted from aerial trunks, 4% eliminated from the area by fires, 4% escaped fires in fire-safe areas. The

aerial trunk survival is for plants sufficiently tall to experience only a cool burn.

Age to first flowering: First flowers recorded at 2 years, 50% estimated at 4-8 years, and 100% recorded at 11 years.



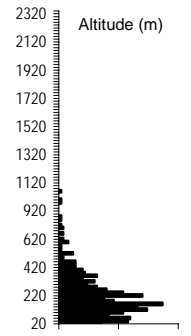
Height (503 records): 3% 0-0.2 m tall, 25% 0.2-1 m tall, 34% 1-2 m tall, 35% 2-5 m tall, 4% taller than 5 m.

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

Habitat:

Distance to Ocean (503 records): 56% inland - further than 2 km from coast.

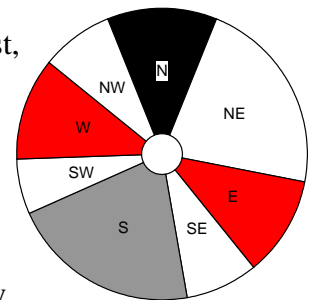
Altitude (503 records): 20 - 960 m; 100_{lq} - 160_{med} - 220_{uq}m.



Landform (503 records): 81% deep soil, 12% shallow soil, 6% rocky outcrops.

Slope (500 records): 55% gentle incline, 31% steep incline, 9% platform, 3% valley bottom, 1% hill top.

Aspect (464 records): 28% South, 27% East, 27% North, 18% West.



Soil Type (500 records): 54% sandy, 31% loamy, 9% gravelly, 4% clayey, 1% rocky.

Soil Colour (498 records): 45% brown, 38% grey, 6% orange, 5% white, 3% yellow, 2% black.

Geology (464 records): 56% sandstone, 22% granite, 8% shale, 6% silcrete or ferricrete, 6% Tertiary sands, 2% conglomerate.

Vegetation (503 records): 91% shrubland, 4% plantations, 3% thicket, 1% suburban.

Conservation Status and Threat:

Red Data List Status: Alien Invader Category 1.

Occurrence (Fynbos): 32 436 km² with 21% conserved and 21% lost; **Occupancy:** 505 km² with 23% conserved and 32% lost. **Fragmentation index:** 1%.

Nature Reserves (503 records): 33% in nature reserves.

Habitat destruction (499 records):

84% extensive natural habitat, 8% islands, 4% road verges, 2% naturally linear habitats, 1% corridors.

Alien Invasive Species (503 records):

54% Fabaceae (chiefly alien *Acacia*), 20% *Hakea*, 19% *Pinus*, 7% Myrtaceae.

Alien Density (496 records): 41% sparse, 32% abundant, 19% dense, 8% impenetrable.

Cultivation & Utilization:

Picking (379 records): 98% no sign of picking, 2% severely picked, 0.3% lightly picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

- One plant had a 30 mm caterpillar with yellow dots on it (NGF99022807).
- Adult Plant 3 m tall seen - chopped it out. Very many young plants – pulled most out – all have juvenile leaves from serrated to divided (AGR92111607).
- Blown in from a stand a few km to east - hacked out! (AGRY0011338); Originating from a few dead mature trees under which they grow densely – a few scattered plants further away (CVVY1010202); This site is bordered by a

thick hedge of infestation - they are so dense it is impossible to penetrate them (VJK97032001).

- They make a good, strong, long walking stick (VJK97032001).

Confusing Species: Often missed as large specimens are assumed to be a Stone Pine.

The only divided leaved invasive *Hakea* at present. Consistently mistaken by one atlasser (PVR) for *H. gibbosa* until corrected by other atlassers.

Records of identification queries = 13.

Records of corrected identification queries = 10.

Variation and Taxonomy: Add.

Distribution: Not as serious a threat as the other species because it only sets seeds in year 6 (Wrigley and Fagg, 1989), but atlas data suggest flowers as young as 2 years, but only reaches 100% flowering at 11 years.

Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Hakea gibbosa (Smith) Cav.
Rock Needlebush
Harigespeldebos

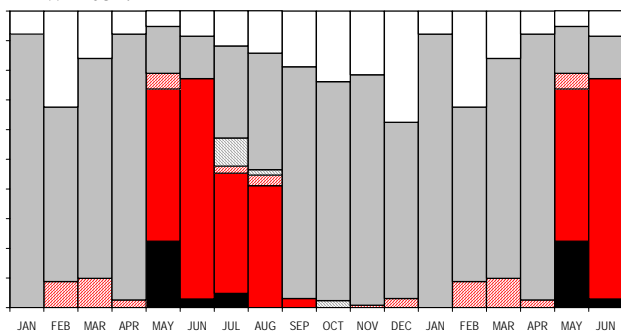
Other Common Names: Hairy Needlebush.
Other Scientific Names: *cornutum* Gaertn. <date>, *lanigera* Ten. <date>, *pinifolia* Salisb. ex Knight 1809, *pubescens* Schrad. 1797, *spheroideum* Sm. <date>

765 Records

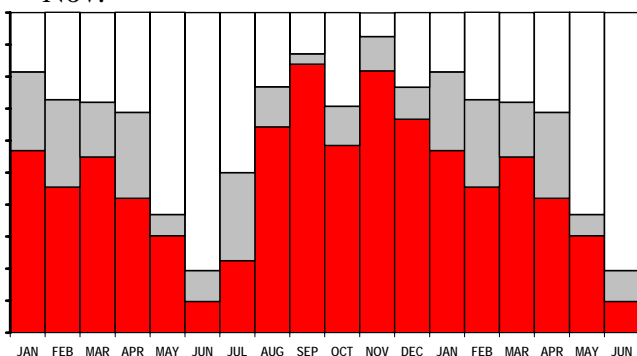
Population (754 records): 4% Abundant, 30% Common, 33% Frequent, 32% Rare, 2% Extinct.

Dispersion (577 records): 77% variable, 20% clumped, 2% widespread.

Flowering (730 records with: Jan 64, Feb 34, Mar 81, Apr 115, May 76, Jun 35, Jul 42, Aug 56, Sep 32, Oct 42, Nov 121, Dec 32): Buds from Feb to Mar; Flowering from May to Aug; Peak Flowering from May; Over from Jul; Fruit (retained) from all year round; Nothing from Feb and Oct to Dec. Peak levels at 79% in May. Historically recorded as flowering in Australia from winter.



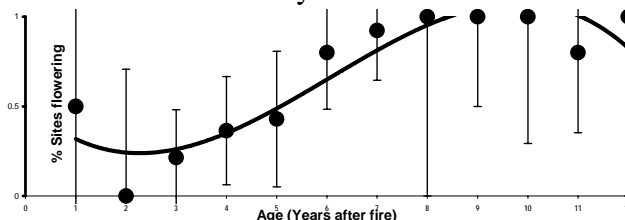
Growth (718 records with: Jan 65, Feb 33, Mar 82, Apr 112, May 76, Jun 31, Jul 40, Aug 56, Sep 31, Oct 41, Nov 121, Dec 30): Much from Aug to May 30; Rare from Jan to Feb and Apr and Jul 28; None from Feb to Aug and Oct and Dec. Peak levels at 93% in Nov.



Seedlings (332 records): Absent in 94%; fewer seedlings than prefire adults in 5 cases, and more in 5 cases. Seedlings found in May (2), Aug, Oct (4), Nov (2) and Dec.

Fire Survival (17 records): 76% survived by seedlings only, 24% eliminated from the area by fires.

Age to first flowering: First flowers recorded at 1 year, 50% estimated at 5-6 years, and 100% recorded at 8 years.



Height (735 records): 2% 0-0.2 m tall, 35% 0.2-1 m tall, 40% 1-2 m tall, 22% 2-5 m tall.

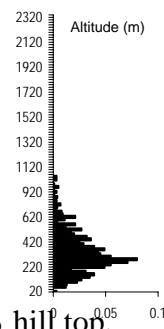
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (748 records): 93% inland - further than 2 km from coast.

Altitude (748 records): 40 - 940 m; 220 *lq* - 280 *med* - 360 *uq*m.

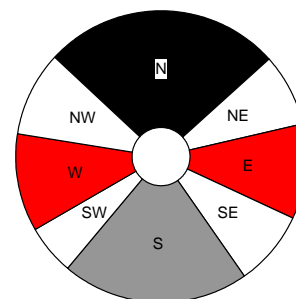


Landform (747 records): 86% deep soil, 13% shallow soil, 1% rocky outcrops.

Slope (747 records): 58% gentle incline, 24% steep incline, 10% hill top, 7% platform.

Aspect (658 records):

35% North, 28% South, 18% West, 18% East.



Soil Type (734 records):

52% sandy, 27% loamy, 9% gravelly, 7% clayey, 3% rocky, 2% peaty.

Soil Colour (736 records): 54% grey, 28% brown, 5% black, 5% white, 4% orange, 3% yellow.

Geology (709 records): 77% sandstone, 15% shale, 6% silcrete or ferricrete, 1% granite.

Vegetation (742 records): 98% shrubland.

Conservation Status and Threat:

Red Data List Status: Alien invader Category 1.

Occurrence (Fynbos): 29 770 km² with 21% conserved and 21% lost; **Occupancy:** 695 km² with 17% conserved and 31% lost. **Fragmentation index:** 1%.

Nature Reserves (748 records): 18% in nature reserves - inadequately conserved.

Habitat destruction (743 records): 89% extensive natural habitat, 6% islands, 2% road verges, 1% naturally linear habitats.

Alien Invasive Species (742 records):

42% *Hakea*, 35% *Pinus*, 18% Fabaceae
(chiefly alien *Acacia*), 4% Myrtaceae.

Alien Density (739 records): 61% sparse,
28% abundant, 8% dense, 3% impenetrable.

Cultivation & Utilization:

Picking (543 records): 99% no sign of picking,
1% severely picked, 0.2% lightly picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

- In some areas this species has not recruited well at all. In others there are lots of young - but nowhere near the dense adult stand from before the fire (AGRY0102001); Dense thicket destroyed by fire about 4 years ago - very many small plants now between 100 - 250 mm tall (DJL94012601);
- Vlakkenberg: this is the site of the most dense *Hakea* stand I have ever seen

(NGF95080501); This site is doomed to become a vast *Hakea* stand which will eventually obliterate the Fynbos - it is impossible to walk through this veld without being seriously spiked because it is literally everywhere (NGF96070604).

Confusing Species: Occasionally confused with *H. sericea*, especially young plants and plants without new growth.

Records of identification queries = 16.

Records of corrected identification queries = 12.

Variation and Taxonomy: None noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Hakea salicifolia (Vent.) Burt.

Willow Hakea

Makspeldebos

Other Common Names: Hedge Hakea, Willow-leaf Hakea.

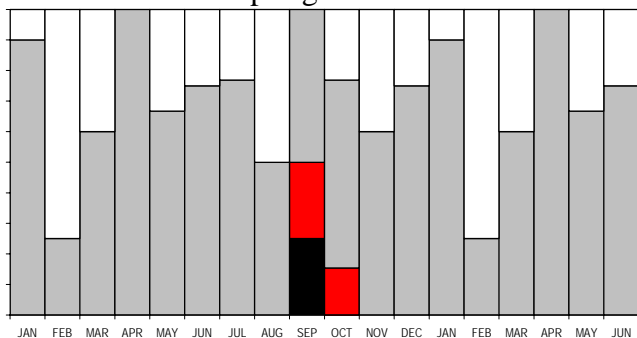
Other Scientific Names: *amplifolia* Gandoger<date>, *mimosoides* A Cunn <date>, *salignum* Salisb. ex Knight 1809.

113 Records

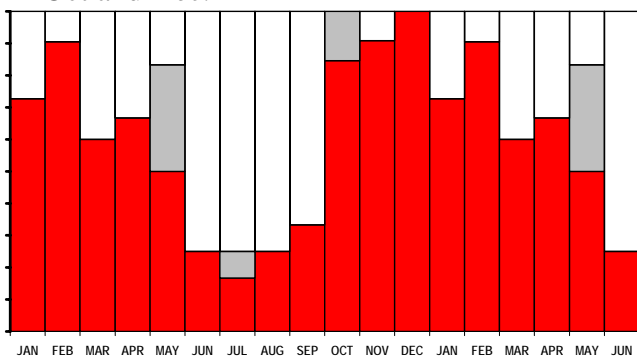
Population (48 records): 4% Abundant, 17% Common, 35% Frequent, 44% Rare.

Dispersion (35 records): 51% clumped, 20% variable, 17% widespread, 11% evenly distributed.

Flowering (99 records with: Jan 10, Feb 16, Mar 5, Apr 2, May 6, Jun 8, Jul 13, Aug 4, Sep 4, Oct 13, Nov 10, Dec 8): Buds not recorded; Flowering from Sep to Oct; Peak Flowering from Sep 25; Over not recorded; Fruit (retained) all year; Nothing from Feb to Mar and May to Dec. Peak levels at 50% in Sep. Historically recorded as flowering in Australia from spring.



Growth (105 records with: Jan 11, Feb 21, Mar 5, Apr 3, May 6, Jun 8, Jul 12, Aug 4, Sep 3, Oct 13, Nov 11, Dec 8): Much from Oct to May; Rare from May; None from Mar 40 to Apr and Jun to Sep. Peak levels at 100% in Oct and Dec.



Seedlings (42 records): Absent in 62%: fewer seedlings than prefire adults in 1 case, and more in 7 cases. Seedlings found in Jan, Jun (2), Jul, Aug, Oct and Dec (2).

Fire Survival (10 records): 50% escaped fires in fire-safe areas, 30% survived by seedlings only, 10% eliminated from the area by fires, 10% resprouted from aerial trunks.

Age to first flowering: First flowers recorded at 1 year, 50% estimated at 4-6 years, and 100% recorded at 13 years.



Height (111 records): 2% 0-0.2 m tall, 8% 0.2-1 m tall, 30% 1-2 m tall, 53% 2-5 m tall, 7% taller than 5 m.

Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (48 records): 96% inland - further than 2 km from coast.

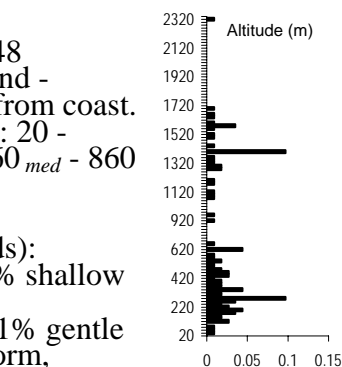
Altitude (48 records): 20 - 1600 m; 260_{lq} - 360_{med} - 860_{uq}m.

Landform (46 records): 76% deep soil, 24% shallow soil.

Slope (46 records): 61% gentle incline, 22% platform, 11% steep incline, 4% hill top, 2% valley bottom.

Aspect (42 records):

30% South,
26% East,
26% West,
18% North.



Soil Type (46 records):

67% loamy,
20% sandy,
9% clayey,
4% gravelly.

Soil Colour (45 records): 44% grey, 38% brown, 9% orange, 4% black, 2% yellow, 2% red.

Geology (42 records): 36% sandstone, 33% shale, 19% granite, 7% silcrete or ferricrete, 5% basalt.

Vegetation (44 records): 66% shrubland, 25% grassland, 5% thicket, 2% agricultural lands, 2% plantations.

Conservation Status and Threat:

Red Data List Status: Alien invader Category 1.

Occurrence (total): 398 610 km² with 3% conserved and 2% lost; Occupancy: 101 km² with 23% conserved and 29% lost. Fragmentation index: 0.3%.

Nature Reserves (48 records): 31% in nature reserves.

Habitat destruction (45 records):
58% extensive natural habitat, 20% islands,
16% naturally linear habitats, 7% road
verges.

Alien Invasive Species (47 records):
38% Fabaceae (chiefly alien *Acacia*),
34% *Pinus*, 23% *Hakea*, 2% Myrtaceae,
2% other aliens.

Alien Density (47 records): 60% sparse,
21% abundant, 19% dense.

Cultivation & Utilization:

Picking (67 records): 100% no sign of picking.

Cultivation Status: Plantings - 61 records
(54%), Escapes - 4 records (4%).

Atlassers Notes:

- Escaping and spreading! (AGR96110601);
Actually invading mature Fynbos
(AGR97121329); Spreading nicely
(AGRY3011514); Escaped - gone wild
(ABL98102601, KEH98102106); Established
and spreading - nearest hedge was 200 m away
(SMR98102103).
- Establishing in veld a few metres west of old
hedgerow killed in last fire: lots of young plants
- good recruitment but most dispersal is within
10 m of fence - almost none further than 20 m
(AGRY2011927).
- Tree dead covered in cones most burst open
into equal wings at right angles; suspect this to

be a self - planted tree escaped from a hedge
further east (PAN94092504);

- A dense mass of self-seeded plants from a
planted hedge - numerous seedlings also thrive
on road verge (PAN94123101); Original
vegetation being smothered by aggressive
seedlings from hedge - exploded in the fire of 5
years ago: approximately 10 morgan now
heavily infested with Auckland Indigenous
Forest also at risk (PAN98030402); Never trust
a *Hakea* not even a "mak" one - the terrible
infestation of two hillsides sloping down to the
edge of aukland state forest is a result of a fire 5
years ago (PAN98030402).

- Unusual to see this species invading Mesic
Renosterveld but this almost certainly due to
area not having been burnt for over 75 years
(NAHY2050101).

- Planted hedge - no seedlings visible, never
subjected to fire (PAN94092503); The planted
bushes are well controlled (PANY0081701);

Confusing Species: Add.

Records of identification queries = 6

Variation and Taxonomy: Add.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Hakea sericea Schrad.
Silky Needlebush
Syrigespeldebos

Other Common Names: Bushy Needlewood, Needlebush.

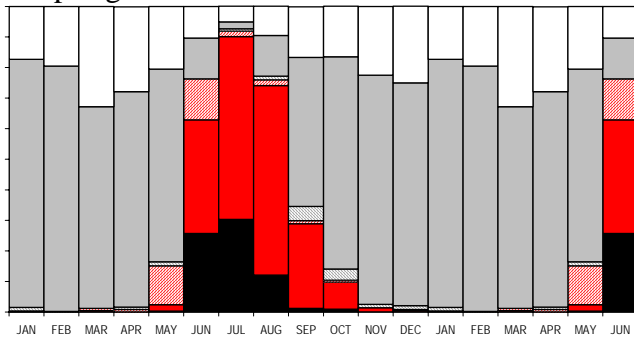
Other Scientific Names: *acicularis* RBr 1810, *longispina* Gandoger, *tenuifolia* (Salisb.) Domin 1796.

6005 Records

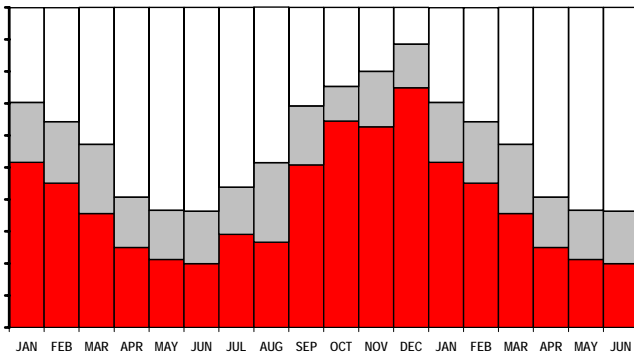
Population (5855 records): 1% Abundant, 19% Common, 48% Frequent, 30% Rare, 2% Extinct.

Dispersion (4665 records): 72% variable, 17% clumped, 9% widespread, 1% evenly distributed.

Flowering (5558 records with: Jan 462, Feb 436, Mar 603, Apr 363, May 385, Jun 261, Jul 396, Aug 429, Sep 573, Oct 700, Nov 559, Dec 391): Buds from May to Jun; Flowering from Jun to Sep; Peak Flowering from Jun to Jul; Over from Sep to Oct; Fruit (retained) from Sep to May; Nothing from Mar to May and Nov to Dec. Peak levels at 93% in Jul. Historically recorded as flowering in Australia from late winter and spring.



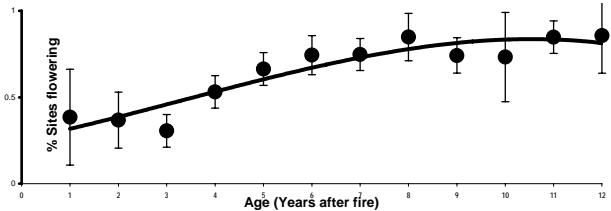
Growth (5466 records with: Jan 459, Feb 432, Mar 596, Apr 364, May 377, Jun 256, Jul 388, Aug 414, Sep 561, Oct 679, Nov 549, Dec 391): Much from Sep to Mar; Rare from all year round; None from Jan Oct. Peak levels at 89% in Dec.



Seedlings (2351 records): Absent in 93%: fewer seedlings than prefire adults in 46 cases, and more in 34 cases. Seedlings found in Jan (7), Feb (2), Mar (15), Apr, May (3), Jun (2), Jul (12), Aug (12), Sep (10), Oct (14) and Nov (2).

Fire Survival (269 records): 77% survived by seedlings only, 12% eliminated from the area by fires, 10% escaped fires in fire-safe areas, 1% resprouted from aerial trunks.

Age to first flowering: First flowers recorded at 1 year, 50% estimated at 3-4 years, and 100% recorded at 15 years.



Height (5696 records): 2% 0-0.2 m tall, 26% 0.2-1 m tall, 49% 1-2 m tall, 23% 2-5 m tall.

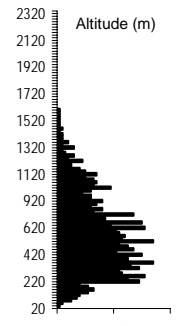
Pollinators (6 records): 50% bees or wasps, 33% flies, 17% beetles.

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

Habitat:

Distance to Ocean (5939 records): 97% inland - further than 2 km from coast.

Altitude (5939 records): 20 - 1540 m; 320 *lq* - 520 *med* - 700 *uq*m.

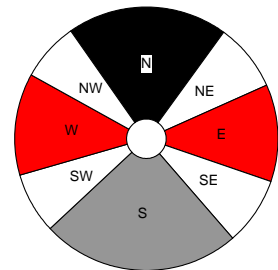


Landform (5926 records): 78% deep soil, 18% shallow soil, 3% rocky outcrops.

Slope (5923 records): 50% gentle incline, 36% steep incline, 6% platform, 5% hill top, 2% valley bottom.

Aspect (5339 records):

33% South,
 28% North,
 20% East,
 20% West.



Soil Type (5874 records): 40% loamy, 39% sandy, 10% gravelly, 5% clayey, 4% rocky, 2% peaty.

Soil Colour (5858 records): 45% brown, 39% grey, 6% black, 6% orange, 2% white, 2% yellow, 1% red.

Geology (5684 records): 71% sandstone, 17% shale, 7% granite, 2% conglomerate, 2% silcrete or ferricrete, 1% Tertiary sands.

Vegetation (5920 records): 95% shrubland, 3% plantations.

Conservation Status and Threat:

Red Data List Status: Invasive alien Category 1.

Occurrence (Total): 174 390 km² with 9% conserved and 9% lost; Occurrence (Fynbos): 35 221 km² with 27% conserved and 17% lost; Occupancy: 5 330 km² with

32% conserved and 22% lost. Fragmentation index: 3%.

Nature Reserves (5939 records): 34% in nature reserves.

Habitat destruction (5830 records):

87% extensive natural habitat, 9% islands, 2% road verges, 1% naturally linear habitats.

Alien Invasive Species (5920 records):

53% *Hakea*, 31% *Pinus*, 15% Fabaceae (chiefly alien *Acacia*), 2% Myrtaceae.

Alien Density (5895 records): 74% sparse, 19% abundant, 6% dense, 1% impenetrable.

Cultivation & Utilization:

Picking (3890 records): 99% no sign of picking, 0.5% severely picked, 0.2% lightly picked.

Cultivation Status: Plantings - 1 record.

Witch's Broom Infestation: 2 records (0.03%).

Atlassers Notes:

- Young with new growth, older ones with flowers (AWA97081404); Tops grazed: leaves stripped by animals in reserve (AGR91120104).
- In grassland seems to escape fire damage by excluding grass growth - although isolated plants survive in grassland Creating strongly invasive thickets which although still limited, are firmly established (ATA93041102); Chopped down and resprouting from base (DJLY0101908).
- Yes, Planted! Heaven help us (AGR99050606).
- Plant With peculiar fasciation: lots of branching from all axils with dense minute stubby leaves - is this Witches Broom on *Hakea*? (ASP94110302, AGR96051001).

Weevil Biocontrol

- Weevil present (PMRY0121102, SHR91092102, WMP98050301 + 13);
- Very few cones - lots of weevil damage (APE93021402, ASP92092005, PAP92091101, PVR95011404); Many plants had the weevil in the follicles (NGF99121801); Many opened cones on live plants (NGFY2010508); Some plants had almost 100% of seeds parasitized (SMR99051205); The reported biological control seems to have been quite effective (PVR0061901); It does appear that biological control has been introduced as many *Hakea* seeding bodies look infected (WMP95122901); *Erytenna consputa* population doing good work on seed, also sign of fungus at work but only in beginning stages (HRK94040201); *Erytenna consputa* and fungus present (HRK94040202-7, 9-11, HRK96110905, HRK97051401, HRK99121001); Some plants had died - holes in the follicles left by weevils were seen (NGF97092001); Biological control evident - quite a few dead plants quite a few seeding bodies immature (WMP98050102);
- Full of cones - No biocontrol here (AGRY2052919 AGRY2052927); The plants on this slope is unaffected by biocontrols - no holes in cones: treatment needed before infestation increases (WIJ98012409, WIJ98021401, WIJ99101602, WIJY0102505, WIJY0122604); New species for this National Park - no signs of weevil attack and lots of cones- action required promptly (AGR97010431); Biocontrol present but very

high cone levels (AGRY4082101); No sign of any biocontrol agents - dead skeleton dense with follicles and has produced almost 100 plants from only a single prefire individual (AGRY2070635); Remarkable that it has not re-established from seed - weevils present here? (DFJ99012609); There are far fewer young plants than there were the adults now burnt - the reported biological control seems to have been quite effective (PVR0061901).

Fungal infections

- Infected With Fungus (AWA98050503, GEH94010807, HRK96042303); Dying from fungus (DOA97030115, DOA97031604); Young tips dead- stem canker (GNIY1032920); Plants dead with stem canker (GNI95012101); Much Die Back (HRKY1010103, OUT94040905-7, OUT95100702, 8-9); Young Dying (OUT95100712); Biocontrol - many dead plants (WMP98041106); Half plants dead! Fungus! (AGR99011004); Mostly dead - killed by fungus. (HCE96051602); Wide sweep of dieback down centre of valley (OUT99050705); Much die back and many dead trees - few small plants (OUT94040604); Impenetrable clumps with scattered plant dying of fungal disease (GEH94010809); With fungus and no weevils (APE94082311); Stem canker and seed snout beetle (GNI95012102); Signs of die back but not much cone damage (OUT94040903); Stem canker on older plants with all young shoots dead (GNIY1032917); Swarm of bees resting in stem canker and cones damaged by weevil and dead tips (GNIY1032919); Lots of older plants dying back- both fungi and seed weevil present- lots of young present (HRKY1010102); Twenty years ago whole valley was densely infested. Now only lower reaches have dense stands remaining - upper mountain slopes are just about clear but no signs of physical removal - just plenty of infected plants (DFJ99012607); Several dead plants noted (some fungus is being used to kill *ha sericea*) - we spoke to the farmer: he has been trying to eradicate them (WEL98042001);

Deaths

- Turning brown (AWA99050803); Very ill looking (IVM98102901); Dying (AWA96032503, AWA96070902-4, 6, AWA97120406, AWA99031101, AWA99050804, VCH99040403); Many plants dying (OUT96030902-7, 10, OUT96032305-6); Many dead (OUTY0090901); Some dying or dead (HEL95091906); Lots dead (LYMY0060202); Dying in impenetrable clumps (MHG96010204); Much plants on upper slopes dead (VCH99090809); Adjacent farm has impenetrable stands - these are now dying fast (AWA94112501); Some dead and partially dead plants (regrowing from base) (AGRY0112611); *Hakea* dying everywhere on the whole (AWA97120405);

Confusing Species: Occasionally confused with *H. gibbosa*, but far more frequently treated recorded as an alien but not regarded as a protea.

Records of identification queries = 62

Records of corrected identification queries = 42%.

Variation and Taxonomy: None noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Brabejum stellatifolium L. 1753

Wild Almond

Wildeamandel

Other Common Names: African Almond, Bitter Almond, Cape Almond, Hottentot's Almond, Kaffir Chestnut, Starry Brabeium, Wild Chestnut, *Wilder Mandelboom*, *Bitteramandel*, *Doboontjie*, *Doboontjieboom*, *Geelamandel*, *Ghioekoffie*, *Ghoboom*, *Ghoboontjieboom*, *Ghoebontjie*, *Hotnotsamandel*, *Hottentotsamandel*, *Kafferkastaiing*, *Wildebitteramandel*, *Gu* (Khoi).

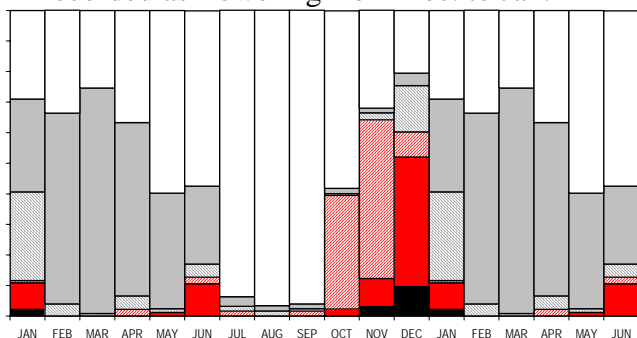
Other Scientific Names: *None*.

1317 Records

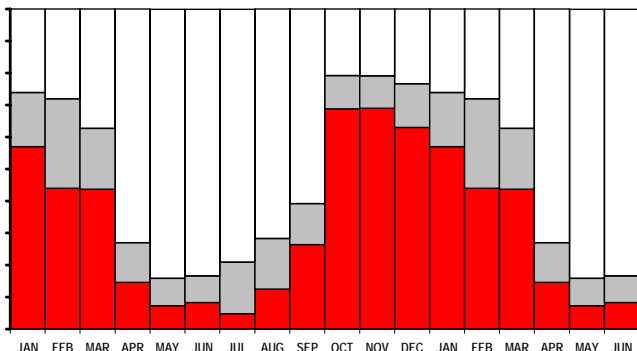
Population (1296 records): 14% Common, 62% Frequent, 23% Rare.

Dispersion (1145 records): 56% variable, 41% clumped, 2% widespread, 1% evenly distributed.

Flowering (1272 records with: Jan 138, Feb 101, Mar 126, Apr 90, May 82, Jun 47, Jul 64, Aug 121, Sep 127, Oct 172, Nov 131, Dec 73): Buds from Oct to Nov; Flowering from Dec; Peak Flowering from Dec; Over from Dec to Jan; Fruit from Jan to Jun; Nothing from all year, but especially Jul to Sep. Peak levels at 75% in Dec. Historically recorded as flowering from Dec. to Jan.



Growth (1269 records with: Jan 142, Feb 100, Mar 126, Apr 89, May 82, Jun 48, Jul 62, Aug 120, Sep 125, Oct 173, Nov 129, Dec 73): Much from Sep to Mar; Rare from Jul to Apr; None from all year round but especially Apr to Sep. Peak levels at 79% in Oct-Nov.

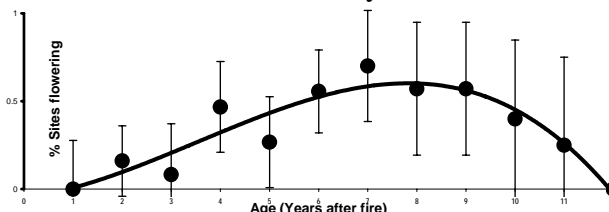


Seedlings (507 records): Absent in 94%: fewer seedlings than prefire adults in 9 cases, and more in 6 cases. Seedlings found in Jan (2),

Feb, Mar, Apr, Jun, Oct, Nov (4) and Dec (4).

Fire Survival (99 records): 58% resprouted from underground boles, 25% resprouted from aerial trunks, 13% escaped fires in fire-safe areas, 4% survived by seedlings only.

Age to first flowering: A resprouter so encountered as mature plants. First flowers recorded at 1 year, 50% estimated at 7 years, and 100% recorded at 17 years.



Height (1304 records): 4% 0.2-1 m tall, 27% 1-2 m tall, 60% 2-5 m tall, 9% taller than 5 m.

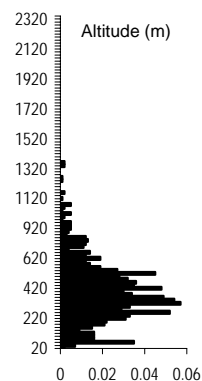
Pollinators (11 records): 45% bees or wasps, 27% flies, 18% beetles, 9% none observed.

Detailed Pollinators (2 records): Wasp (unspecified), Honey Bee.

Habitat:

Distance to Ocean (1274 records): 97% inland - further than 2 km from coast.

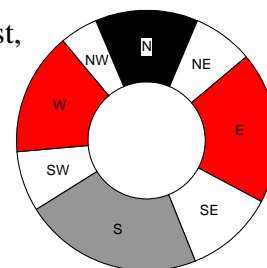
Altitude (1274 records): 20 - 1260 m; 240 *lq* - 360 *med* - 460 *uq*m.



Landform (1269 records): 57% deep soil, 30% riverine, 9% shallow soil, 3% rocky outcrops.

Slope (1264 records): 41% gentle incline, 31% valley bottom, 22% steep incline, 5% platform.

Aspect (996 records): 32% South, 28% East, 21% West, 19% North.



Soil Type (1193 records):

52% sandy, 28% loamy, 9% rocky, 7% gravelly, 3% clayey.

Soil Colour (1167 records): 40% brown, 36% grey, 9% white, 6% orange, 4% black, 3% yellow, 2% red.

Geology (1174 records): 75% sandstone, 12% granite, 10% shale, 2% Tertiary sands, 1% conglomerate.

Vegetation (1265 records): 72% shrubland, 15% thicket, 5% plantations, 3% forest, 3% woodland,.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 20 617 km² with 10% conserved and 28% lost; Occupancy: 1 320 km² with 18% conserved and 19% lost. Fragmentation index: 3%.

Nature Reserves (1274 records): 47% in nature reserves.

Habitat destruction (1254 records): 66% extensive natural habitat, 27% naturally linear habitats, 5% islands.

Alien Invasive Species (1209 records): 35% none, 32% Fabaceae (chiefly alien *Acacia*), 20% *Pinus*, 9% *Hakea*, 2% other aliens, 1% Myrtaceae.

Alien Density (1208 records): 35% alien-free, 42% sparse, 16% abundant, 6% dense, 2% impenetrable.

Cultivation & Utilization:

Picking (905 records): 100% no sign of picking.

Cultivation Status: Plantings - 13 records (1%).

Atlassers Notes:

- Many cones only present on the branches of a 50 mm diameter big branch hanging over river). Other slightly smaller branches had no cones these were the only cones seen among scores of other trees - many bigger - in the Gifberg rivers (WIJ94041501).
- In contrast to those plants in Van Riebeeck's Hedge which are all in bud these appear to be either growing (95% shoots) or in bud (1% shoots) (AGR91111901); Farmer says they don't produce fruit every year (WIJ94041305);
- Many shoots heavily galled (AGR91111901); Leaves being stripped by huge caterpillars of Pine Emperor Moth (CHE96111302);
- Some branches dying off and turning yellow. These plants were 10 m away from the river and perhaps were suffering from a water shortage after a very hot summer and dry winter of 2000 (NGFY0070801); A plant has got many yellow leaves probably because of lack of water (NGFY0120301);
- Flies and common honeybees were attracted to the "pong" exuded by the flowers (GNIY0120406).
- Looks very much like Oleander! Does it occupy a similar niche? (AGR95070523).
- The Historical Monuments plaque at this point states that these were planted in 1660 as part of Van Riebeeck's hedge - presumably then these plants are protected although not in a reserve (PVR93072102).
- Many notes about plants either confined to river banks, occ. confined to forest margins, or spread out in Fynbos.

Confusing Species: None.

Records of identification queries = 6. Mostly dealing with stems having unusual numbers (5 to 9) of leaves per whorl.

Variation and Taxonomy: The only African member of the Grevilleoideae: closely related to *Panopsis* in South America and *Macadamia* in Australia.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Aulax Berg. 1767
Featherbushes

Genus page: anything specific to go here?

Aulax cancellata (L.) Druce 1753, 1914
Channel-leaf Featherbush
Naaldblaarkanariebos

Other Common Names: Pine-leaf Aulax, *Geelyveer*.

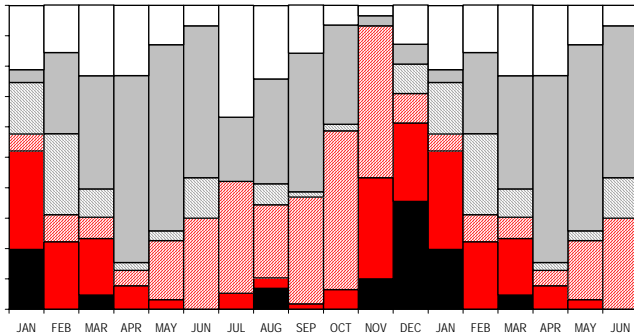
Other Scientific Names: *bracteata* Thunb. 1781, *pinifolia* Berg. 1767.

480 Records

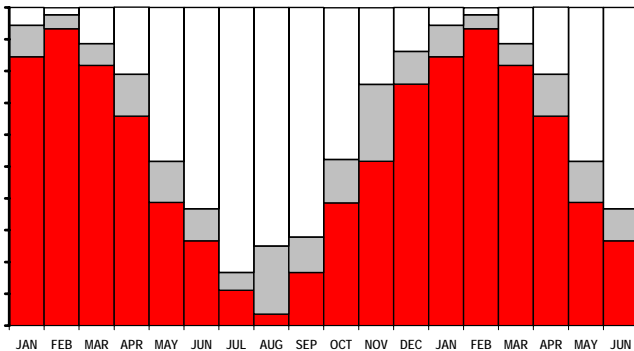
Population (473 records): 25% Common, 49% Frequent, 25% Rare.

Dispersion (424 records): 47% variable, 44% clumped, 6% widespread, 3% evenly distributed.

Flowering (471 records with: Jan 71, Feb 45, Mar 43, Apr 39, May 31, Jun 30, Jul 19, Aug 29, Sep 57, Oct 46, Nov 30, Dec 31): Buds from May to Nov; Flowering from Nov to Mar; Peak Flowering from Nov to Jan; Over from Dec to Feb; Fruit (retained) from Feb to Oct; Nothing from Dec to May 13 and Jul to Oct 7. Peak levels at 93% in Nov. Historically recorded as flowering from Nov to Feb.



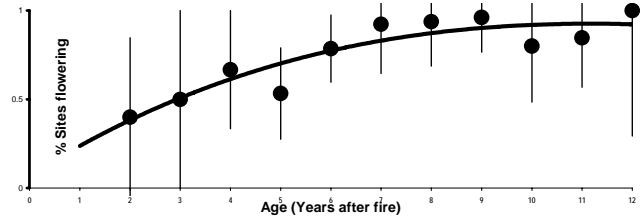
Growth (461 records with: Jan 71, Feb 45, Mar 44, Apr 38, May 31, Jun 30, Jul 18, Aug 28, Sep 54, Oct 44, Nov 29, Dec 29): Much from Sep to Jul; Rare from Aug to Jan and Apr to Jun; None from Mar to Dec. Peak levels at 98% in Feb.



Seedlings (213 records): Absent in 90%: fewer seedlings than prefire adults in 3 cases, and more in 8 cases. Seedlings found in Mar (2), Apr, May, Jun, Sep and Dec (5).

Fire Survival (48 records): 83% survived by seedlings only, 8% resprouted from underground boles, 6% eliminated from the area by fires, 2% escaped fires in fire-safe areas.

Age to first flowering: First flowers recorded at 2 years, 50% estimated at 3 years, and 100% recorded at 12 years.



Height (473 records): 6% 0-0.2 m tall, 70% 0.2-1 m tall, 21% 1-2 m tall, 3% 2-5 m tall.

Pollinators (1 record): 100% bees or wasps.
Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (444 records): 92% inland - further than 2 km from coast.

Altitude (444 records): 20 - 1460 m; 500 *lq* - 720 *med* - 920 *uq* m.

Landform (440 records): 68% deep soil, 27% shallow soil, 3% rocky outcrops, 2% swamp.

Slope (440 records): 55% steep incline, 33% gentle incline, 7% hill top, 3% platform, 2% cliff.

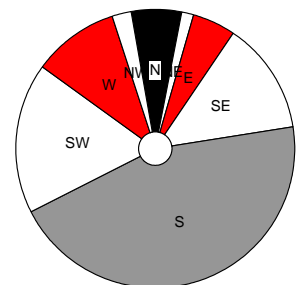
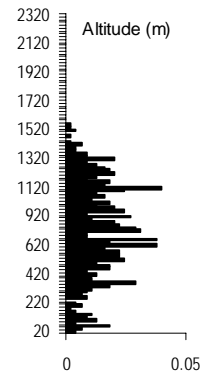
Aspect (394 records): 61% South, 21% West, 10% East, 7% North.

Soil Type (439 records): 45% sandy, 28% loamy, 17% peaty, 5% rocky, 4% gravelly, 2% clayey.

Soil Colour (439 records): 44% grey, 27% black, 23% brown, 3% orange, 2% white.

Geology (432 records): 94% sandstone, 4% shale.

Vegetation (440 records): 99% shrubland.



Conservation Status and Threat:

Red Data List Status: Least Concern, but Critically Endangered A2c, B1a(ii)c(iv)+2a(ii)c(iv), C2a(ii) on the Cape Peninsula.

Occurrence (Fynbos): 11 986 km² with 29% conserved and 15% lost; **Occupancy:** 402 km² with 68% conserved and 5% lost. **Fragmentation index:** 1%.

Nature Reserves (444 records): 84% in nature reserves - well conserved.

Habitat destruction (433 records): 97% extensive natural habitat, 2% naturally linear habitats, 1% islands.

Alien Invasive Species (430 records):
64% none, 23% *Pinus*, 7% Fabaceae (chiefly alien *Acacia*), 6% *Hakea*.
Alien Density (430 records): 64% alien-free, 33% sparse, 2% abundant.

Cultivation & Utilization:

Picking (329 records): 99% no sign of picking, 0.9% severely picked, 0.3% lightly picked.

Cultivation Status: Plantings - 4 records (0.8%).

Atlassers Notes:

- These plants were removed as pines in alien clearing operations (AKS92040103); hackers mistook plants for pines and chopped them off (AWA96111201).

Silvermine population:

- Has a strange growth habit at this site being more flat and looking more wind-swept than other populations (NGFY1071401).
- First flowers at about 500 mm high (NGF96060806).
- The '99 fire came very close (100 m) to wiping out this species here: about 100 plants remain with perhaps as much as 30% of the original population destroyed. Only 2 males had flowered at the time. (NGF99071801, NGFY1071401).

Confusing Species: Primarily confused with *A. pallasia*, especially when the growth habit

was not noted. Also confused with *A. umbellata*, although the leaves are quite different. A hybrid population with *A. umbellata*, was found in the Kleinmond Nature Reserve. Initial confusion was caused by the lack of a channel in the leaves, but it was found that this only occurs in herbarium specimens – live material does not display the characteristic upper channel unless desiccated.

Records of identification queries = 27.

Records of corrected identification queries = 4.

Variation and Taxonomy: The species has two forms (Rourke 1985), but this was not commented on by atlassers.

- The eastern populations (Swartberg, Rooiberg, Outeniqua and Kouga) have longer, straighter and more slender leaves.
- The western populations have shorter, broader leaves (Peninsula, Kogelberg-Hottentots Holland and Riviersonderend).

Atlassers did note the more prostrate plants of the Silvermine population, and a very tall form on the south slopes of the Langeberg.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Aulax pallasia Stapf 1912
Needle-leaf Featherbush
Dunbeentjebos

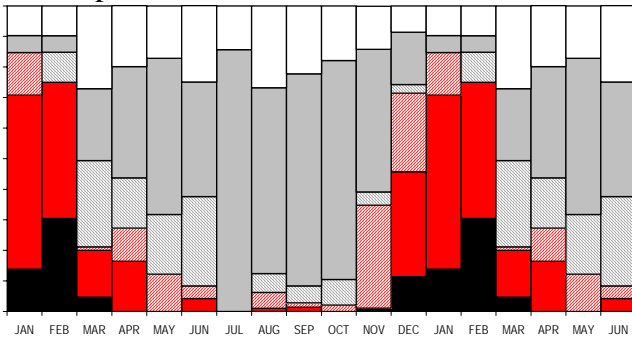
Other Common Names: *Kersbos*,
Naaldblaarkanariebos.
Other Scientific Names: *None*.

799 Records

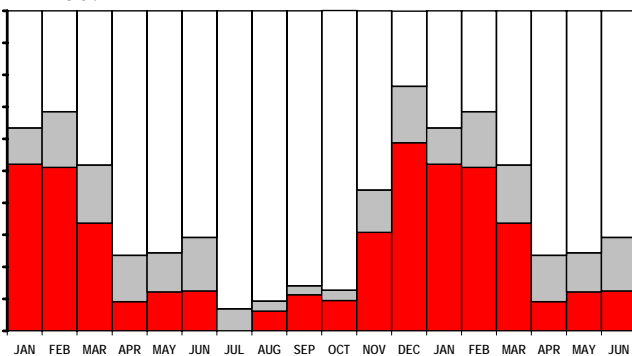
Population (790 records): 7% Common,
 49% Frequent, 43% Rare.

Dispersion (656 records): 56% clumped,
 43% variable.

Flowering (788 records with: Jan 72, Feb 92,
 Mar 85, Apr 55, May 41, Jun 24, Jul 28, Aug
 97, Sep 72, Oct 95, Nov 92, Dec 35): Buds
 from Nov to Jan and Apr to May; Flowering
 from Dec to Apr; Peak Flowering from Dec
 to Feb; Over from Feb to Jun; Fruit
 (retained) from Mar to Dec; Nothing from
 Jan to Nov. Peak levels at 85% in Jan-Feb.
 Historically recorded as flowering from Jan
 to Apr.



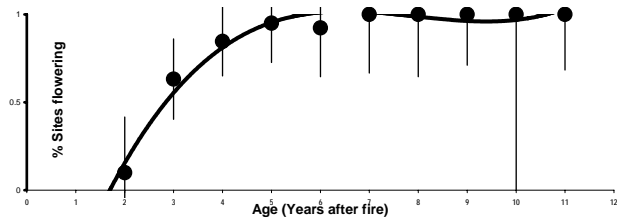
Growth (783 records with: Jan 71, Feb 92, Mar
 83, Apr 55, May 41, Jun 24, Jul 29, Aug 97,
 Sep 71, Oct 95, Nov 91, Dec 34): Much from
 Nov to Mar; Rare from Nov to Jun; None
 from all year round. Peak levels at 76% in
 Dec.



Seedlings (320 records): Absent in 98%: fewer
 seedlings than prefire adults in 3 cases.
 Seedlings found in Jan, Mar and Oct.

Fire Survival (95 records): 96% resprouted
 from underground boles, 2% survived by
 seedlings only, 2% escaped fires in fire-safe
 areas.

Age to first flowering: A resprouter, so mostly
 encountered as mature plants. First flowers
 recorded at 2 years, 50% estimated at 3
 years, and 100% recorded at 7 years.



Height (793 records): 36% 0.2-1 m tall, 54% 1-
 2 m tall, 9% 2-5 m tall.

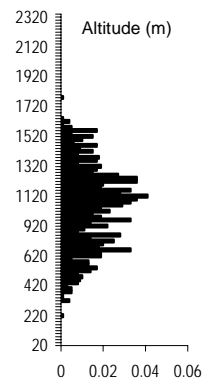
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (785
 records): 100% inland -
 further than 2 km from
 coast.

Altitude (786 records): 200 -
 1680 m; 720 *lq* - 980 *med* -
 1120 *uq*m.



Landform (782 records):

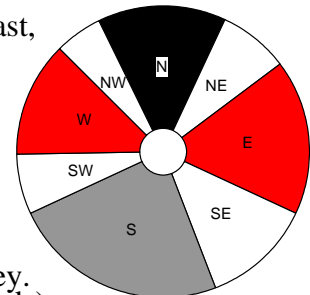
77% deep soil,
 20% shallow soil,
 3% rocky outcrops.

Slope (780 records):

50% gentle incline, 35% steep incline,
 7% platform, 5% hill top, 2% valley bottom.

Aspect (697 records):

33% South, 28% East,
 21% North,
 19% West.



Soil Type (776
 records):

46% sandy,
 29% loamy,
 15% gravelly,
 6% rocky, 4% clayey.

Soil Colour (778 records):

52% brown, 34% grey, 4% white,
 4% yellow, 3% orange, 2% red, 1% black.

Geology (773 records): 72% sandstone,
 21% shale, 5% granite, 1% silcrete or
 ferricrete.

Vegetation (783 records): 98% shrubland.

Conservation Status and Threat:

Red Data List Status: Near Threatened A4c.
 Occurrence (Fynbos): 11 820 km² with 19%
 conserved and 16% lost; Occupancy:
 981 km² with 70% conserved and 6% lost.
 Fragmentation index: 4%.

Nature Reserves (786 records): 31% in nature
 reserves.

Habitat destruction (777 records):
 95% extensive natural habitat, 2% islands,
 2% naturally linear habitats.

Alien Invasive Species (766 records):

53% none, 27% *Pinus*, 18% *Hakea*,
 2% Fabaceae (chiefly alien *Acacia*).

Alien Density (766 records): 53% alien-free,
 41% sparse, 5% abundant.

Cultivation & Utilization:

Picking (543 records): 99% no sign of picking, 0.6% lightly picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

- At Kleindrakenstein: very broad leaves - definitely a resprouter but with *A. umbellata* size leaves (AGR95051402).
- Only males seen (AGR96081009, APE92101711, APE92101802, ASP93061311, MHGY0031202, VJK93041802, VJK93093009, WMPY1020401, WMPY1020402); Mostly male plants (WMPY1020306).

Confusing Species: Often confused with *A. cancellata* by those not observing or noting the growth habit.

Records of identification queries = 21.

Records of corrected identification queries = 12.

Variation and Taxonomy: No recorded variation in the literature. Atlassers found a Kleindrakenstein population with very broad leaves.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Aulax umbellata (Thunb.) R.Br. 1781, 1810

Broad-leaf Featherbush

Veerkanariebos

Other Common Names: Featherduster, Fluffy Featherbush, Widow wail-leaf Aulax, *Christmasblom*, *Sekelbos*.

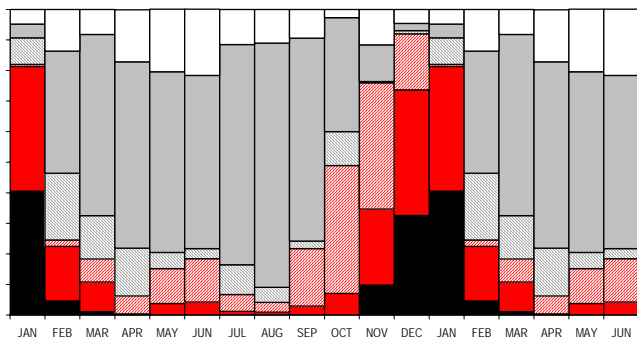
Other Scientific Names: *aulacea* (Thunb.) 1781, *cneorifolia* Salisb. ex Knight 1809.

2723 Records

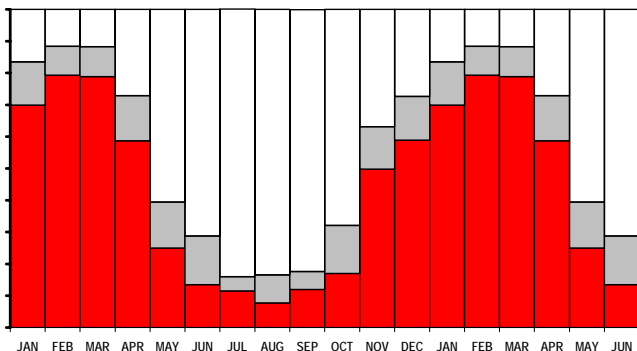
Population (2688 records): 2% Abundant, 43% Common, 47% Frequent, 7% Rare.

Dispersion (2494 records): 77% variable, 16% clumped, 6% widespread.

Flowering (2598 records with: Jan 289, Feb 280, Mar 268, Apr 223, May 132, Jun 120, Jul 165, Aug 219, Sep 277, Oct 225, Nov 225, Dec 175): Buds from Sep to Dec; Flowering from Nov to Jan; Peak Flowering from Dec to Jan; Over from Feb to Apr; Fruit (retained) from Feb to Oct 37; Nothing from Apr to Jun. Peak levels at 93% in Dec. Historically recorded as flowering from Nov to Feb.



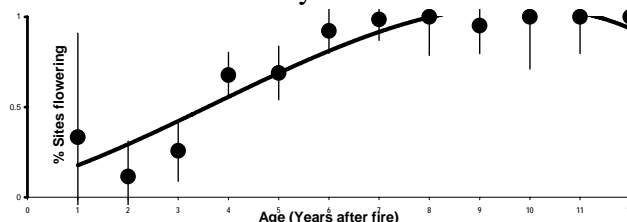
Growth (2539 records with: Jan 279, Feb 275, Mar 266, Apr 218, May 132, Jun 111, Jul 157, Aug 217, Sep 266, Oct 218, Nov 225, Dec 175): Much from Nov to Jan; Rare never prominent; None from May to Nov. Peak levels at 88% in Feb-Mar.



Seedlings (1172 records): Absent in 90%: fewer seedlings than prefire adults in 18 cases, and more in 42 cases. Seedlings found in Jan (13), Feb (6), Mar (2), Apr (2), May (4), Jun, Jul (4), Aug (11), Sep (14), Oct, Nov and Dec.

Fire Survival (135 records): 84% survived by seedlings only, 10% eliminated from the area by fires, 5% escaped fires in fire-safe areas.

Age to first flowering: First flowers recorded at 1 year, 50% estimated at 3 to 4 years, and 100% recorded at 8 years.



Height (2598 records): 5% 0-0.2 m tall, 52% 0.2-1 m tall, 41% 1-2 m tall, 3% 2-5 m tall.

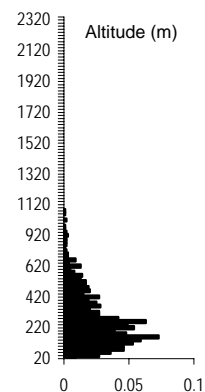
Pollinators (12 records): 50% bees or wasps, 42% beetles, 8% birds.

Detailed Pollinators (5 records): Solitary Bee (2), Scarab Beetle, Monkey Beetle, Honey Bee.

Habitat:

Distance to Ocean (2624 records): 84% inland - further than 2 km from coast.

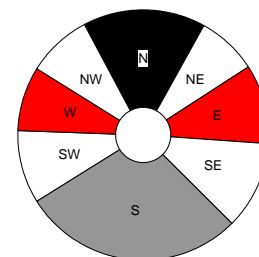
Altitude (2624 records): 20 - 1020 m; 120_{lq} - 220_{med} - 280_{uq}m.



Landform (2520 records): 83% deep soil, 13% shallow soil, 3% rocky outcrops.

Slope (2518 records): 55% gentle incline, 25% steep incline, 10% platform, 7% hill top, 2% valley bottom.

Aspect (2184 records): 40% South, 24% North, 19% East, 17% West.



Soil Type (2519 records): 64% sandy, 20% loamy, 7% gravelly, 4% clayey, 3% rocky, 2% peaty.

Soil Colour (2513 records): 63% grey, 19% brown, 8% white, 6% black, 2% orange, 2% yellow.

Geology (2492 records): 81% sandstone, 8% shale, 5% Tertiary sands, 3% silcrete or ferricrete, 2% limestone.

Vegetation (2613 records): 99% shrubland.

Conservation Status and Threat:

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

Occurrence (Fynbos): 5 086 km² with 18% conserved and 27% lost; **Occupancy:** 1 526 km² with 24% conserved and 24% lost. Fragmentation index: 13%.

Nature Reserves (2624 records): 45% in nature reserves.

Habitat destruction (2467 records): 93% extensive natural habitat, 4% islands, 2% naturally linear habitats.

Alien Invasive Species (2463 records):
33% none, 31% *Pinus*, 26% Fabaceae
(chiefly alien *Acacia*), 7% *Hakea*,
4% Myrtaceae.

Alien Density (2459 records): 33% alien-free,
52% sparse, 11% abundant, 4% dense.

Cultivation & Utilization:

Picking (1776 records): 99% no sign of
picking, 0.9% lightly picked, 0.2% severely
picked.

Cultivation Status: Plantings - 7 records
(0.3%), Augmentations - 2 records (0.07%),
Escapes - 1 record (0.04%).

Witch's Broom Infestation: 2 records (0.07%).

Atlassers Notes:

- Many dead plants (SMRY0072006); Lots of
dead in patches - apparently wetter areas that
appear to have dried out (AGRY0011410).
- Picking probably done by buck?
(AGR91101403).
- Land strip ploughed - this part planted
densely with *A. umbellata* (SMRY0052405).
- Only males (AGR94082803,
AGR95043011).
- Solitary Bees - lots on males
(AGR97122009); Honeybees - very active lots
of pollen on hind legs (JCA93012303); Monkey

Beetles were on the male plants only
(NGF97112915).

Confusing Species: Confused with both *A.*
pallasia (rarely) and more frequently with *A.*
cancellata. However, many of the latter
queries were from the hybrid area in the
Kleinmond Nature Reserve.

Records of identification queries = 23.

Records of corrected identification queries = 9.

Variation and Taxonomy: Rourke (1987)
noted that leaves were variable and several
forms existed. The two he noted were:

- A narrow-leaved form with straight blades
from Sir Lowry's Pass to Kleinmond, and,
- A broader-leaved form with prominently
incurved blades, associated with limestone
in the south and east, but not growing on
them.

Atlassers noted that species from neutral soils
had more curly leaves than those from
sandstone-derived soils.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Faurea Harv. 1847
Beechwoods

The Beechwoods are also known as African Beech Trees. The name is derived from the wood which resembles the European Beech.

Anything specific to go in here?

Faurea delevoyii De Wild. 1924
Delevoy's Beechwood

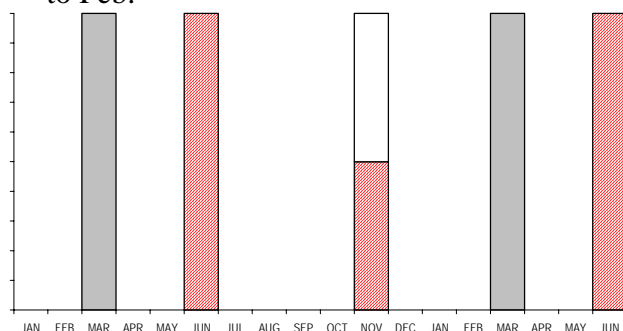
Other Common Names: None known.
Other Scientific Names: *None*.

4 Records

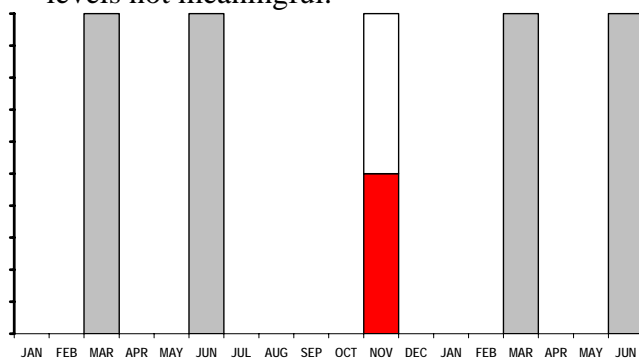
Population (4 records): 50% Frequent, 50% Rare.

Dispersion (2 records): 100% variable.

Flowering (4 records with: Jan 0, Feb 0, Mar 1, Apr 0, May 0, Jun 1, Jul 0, Aug 0, Sep 0, Oct 0, Nov 2, Dec 0): Buds from Jun and Nov; Flowering, Peak Flowering and Over not recorded; Fruit from Mar; Nothing from Nov. Peak levels not meaningful. Historically recorded as flowering from Aug to Feb.



Growth (4 records with: Jan 0, Feb 0, Mar 1, Apr 0, May 0, Jun 1, Jul 0, Aug 0, Sep 0, Oct 0, Nov 2, Dec 0): Much from Nov; Rare from Mar and Jun; None from Nov. Peak levels not meaningful.



Seedlings (1 record): All without any seedlings present.

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

Age to first flowering: No data.

Height (4 records): 75% 2-5 m tall, 25% taller than 5 m.

Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (4 records): 100% inland - further than 2 km from coast.

Altitude (4 records): 1200 - 1500 m; 1300_{lq} - 1320_{med} - 1320_{uq}m.

Landform (4 records): 50% shallow soil, 25% riverine, 25% deep soil.

Slope (4 records): 50% steep incline, 25% valley bottom, 25% platform.

Aspect (3 records): 33% East, 33% South, 33% West.

Soil Type (4 records):

50% loamy, 25% sandy, 25% rocky.

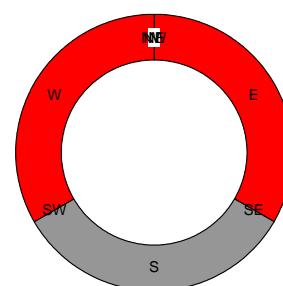
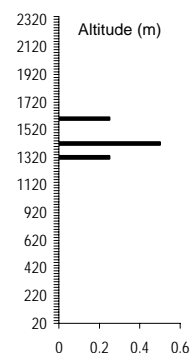
Soil Colour (4 records):

50% brown, 50% grey.

Geology (3 records):

67% granite, 33% sandstone.

Vegetation (4 records): 50% wooded grassland, 50% forest.



Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence and Occupancy not computed.

Nature Reserves (4 records): 25% in nature reserves.

Habitat destruction (4 records): 50% naturally linear habitats, 50% extensive natural habitat.

Alien Invasive Species (4 records): 75% none, 25% other aliens.

Alien Density (4 records): 75% alien-free, 25% sparse.

Cultivation & Utilization:

Picking (2 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes: None.

Confusing Species: **Add.**

Records of identification queries = 2.

Variation and Taxonomy: Add.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Faurea galpinii Phill. 1912

Forest Beechwood

Bosboekenhout

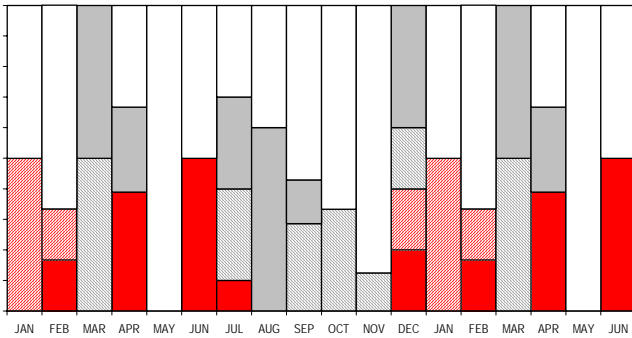
Other Common Names: Bush Beechwood, *Rooiboekenhout*, *Magulugulu* (?), *Monengenenge* (N-Sotho), *Sicalaba* (Swazi).
Other Scientific Names: None.

82 Records

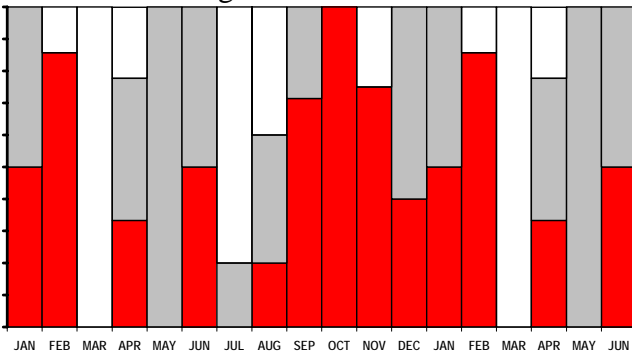
Population (81 records): 2% Common, 69% Frequent, 28% Rare.

Dispersion (74 records): 47% clumped, 42% variable, 5% evenly distributed, 5% widespread.

Flowering (71 records with: Jan 2, Feb 6, Mar 2, Apr 18, May 3, Jun 2, Jul 10, Aug 5, Sep 7, Oct 3, Nov 8, Dec 5): Buds from Dec to Jan; Flowering from Apr, Jun and Dec; Peak Flowering not noted; Over from Mar, Jul, Sep to Oct and Dec; Fruit from Mar to Apr and Jul to Aug, and Dec; Nothing from Jan to Feb and Apr to Nov. Peak levels at 60% in Dec. Historically recorded as flowering from Oct to Jan.



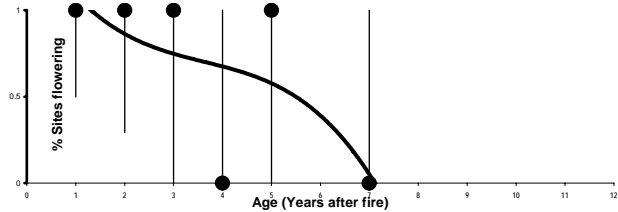
Growth (72 records with: Jan 2, Feb 7, Mar 2, Apr 18, May 3, Jun 2, Jul 10, Aug 5, Sep 7, Oct 3, Nov 8, Dec 5): Much from Aug to Feb and Apr and Jun; Rare from Dec to Jan and Apr to Sep; None from Mar to Apr and Jul to Aug and Nov. Peak levels at 100% in May to Jun and Aug to Jan.



Seedlings (23 records): Absent in 91%; fewer seedlings than prefire adults in 1 cases. Seedlings found in Apr 1.

Fire Survival (33 records): 76% escaped fires in fire-safe areas, 21% resprouted from aerial trunks, 3% resprouted from underground boles.

Age to first flowering: First flowers recorded at 1 year, data insufficient for other computations.



Height (79 records): 4% 0.2-1 m tall, 11% 1-2 m tall, 62% 2-5 m tall, 23% taller than 5 m.

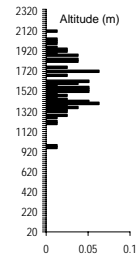
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (79 records): 100% inland - further than 2 km from coast.

Altitude (79 records): 840 - 2020 m; 1280_{lq} - 1420_{med} - 1520_{uq}m.

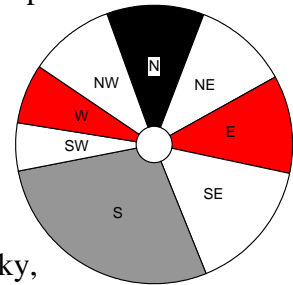


Landform (74 records): 41% deep soil, 31% shallow soil, 20% riverine, 8% rocky outcrops.

Slope (75 records): 51% steep incline, 35% gentle incline, 8% hill top, 3% cliff, 3% valley bottom, 1% platform.

Aspect (71 records):

37% South,
25% East,
23% North,
15% West.



Soil Type (73 records):

79% loamy,
10% sandy, 10% rocky,
1% peaty.

Soil Colour (72 records): 79% brown, 13% grey, 4% black, 4% red.

Geology (35 records): 63% sandstone, 20% shale, 9% dolerite, 3% conglomerate, 3% granite, 3% other.

Vegetation (74 records): 42% forest, 24% wooded grassland, 14% thicket, 9% grassland, 7% woodland, 4% shrubland.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (total): 12 109 km² with 33% conserved and 6% lost; Occupancy: 158 km² with 24% conserved and 27% lost. Fragmentation index: 1%.

Nature Reserves (79 records): 48% in nature reserves.

Habitat destruction (74 records): 55% extensive natural habitat, 28% naturally linear habitats, 9% islands, 7% naturally fragmented habitats.

Alien Invasive Species (67 records): 52% none, 31% *Pinus*, 12% Fabaceae (chiefly alien *Acacia*), 3% other aliens, 1% Myrtaceae.

Alien Density (67 records): 52% alien-free,
39% sparse, 4% abundant, 4% dense.

Cultivation & Utilization:

Picking (54 records): 96% no sign of picking,
2% lightly picked, 2% severely picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Flowers: scent of melted sugary butter - hot
freshly baked cookies (APE94021607);

Had galls (NGFY0040501);

Ringbarked for muti purposes - large strips have
been removed with a few trees dead
(LOT96052801).

Confusing Species: Misidentified with
F. macnaughtonii.

Records of identification queries = 7

Records of corrected identification queries = 6.

Variation and Taxonomy: None known.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Faurea macnaughtonii Phill. 1912

Terblanz Beechwood

Terblans

Other Common Names: Egossa Beechwood, *Bosboekenhout*, *Egossaboekenhout*, *Rooiboekenhout*, *iSafo* (Xhosa), *isiSefo* (Zulu).

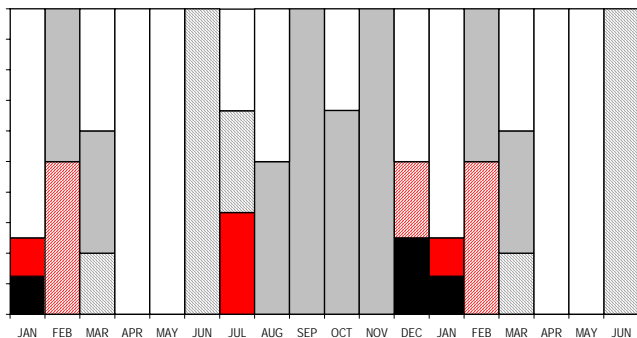
Other Scientific Names: *natalensis* Phill. 1912.

40 Records

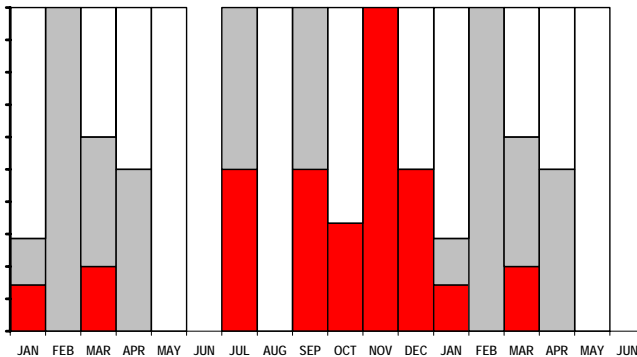
Population (32 records): 0% Common, 25% Frequent, 75% Rare.

Dispersion (22 records): 64% clumped, 27% variable, 5% evenly distributed, 5% widespread.

Flowering (34 records with: Jan 8, Feb 2, Mar 5, Apr 2, May 1, Jun 1, Jul 3, Aug 2, Sep 2, Oct 3, Nov 1, Dec 4): Buds from Feb and Dec; Flowering from Jul; Peak Flowering from Dec; Over from Mar and Jun to Jul; Fruit from Feb to Mar and Aug to Nov; Nothing from Dec to Jan and Mar to May and Jul to Aug and Oct. Peak levels at 100% in Jun. Historically recorded as flowering from Dec to Feb.



Growth (30 records with: Jan 7, Feb 2, Mar 5, Apr 2, May 1, Jun 0, Jul 2, Aug 1, Sep 2, Oct 3, Nov 1, Dec 4): Much from Mar and Jul and Sep to Dec; Rare from Feb to Apr and Jul and Sep; None from Dec to Jan and Mar to May and Aug and Oct. Peak levels at 100% in Nov.



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

Fire Survival (6 records): 100% escaped fires in fire-safe areas.

Age to first flowering: Not relevant as no fire data.

Height (38 records): 5% 0.2-1 m tall, 11% 1-2 m tall, 13% 2-5 m tall, 71% taller than 5 m.

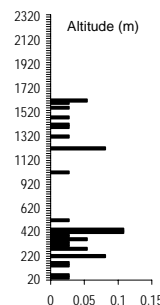
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (31 records): 97% inland - further than 2 km from coast.

Altitude (31 records): 20 - 1520 m; 260_{lq} - 420_{med} - 440_{uq}m.



Landform (30 records): 60% deep soil, 23% shallow soil, 17% riverine.

Slope (29 records): 41% steep incline, 41% gentle incline,

14% platform, 3% valley bottom.

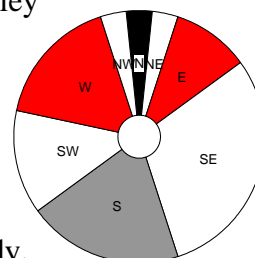
Aspect (25 records):

40% South,

26% East,

24% West,

10% North.



Soil Type (29 records):

62% loamy, 21% sandy,

10% clayey, 3% peaty, 3% rocky.

Soil Colour (29 records): 59% brown,

24% grey, 10% black, 3% orange, 3% red.

Geology (20 records): 60% sandstone,

30% shale, 5% conglomerate, 5% other.

Vegetation (30 records): 77% forest,

10% shrubland, 7% grassland, 3% wooded grassland, 3% agricultural lands.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (total): 292 700 km² with 3% conserved and 16% lost; Occupancy: 69 km² with 33% conserved and 25% lost. Fragmentation index: 0%.

Nature Reserves (31 records): 61% in nature reserves - well conserved.

Habitat destruction (25 records):

60% extensive natural habitat, 24% islands, 12% naturally linear habitats, 4% road verges.

Alien Invasive Species (24 records): 79% none, 8% Fabaceae (chiefly alien *Acacia*), 8% *Pinus*, 4% Myrtaceae.

Alien Density (24 records): 79% alien-free, 17% sparse, 4% abundant.

Cultivation & Utilization:

Picking (13 records): 100% no sign of picking.

Cultivation Status: Plantings - 6 records (15%), Augmentations - 1 record (3%).

Atlasers Notes:

Masses of young trees and seedlings - parent tree cannot be found (OUTY0011503); Mostly young trees about 2m on N of road 1 very large forest tree S of road (OUTY0011508);

Only 2 juveniles found (LOT99061801);
4 juveniles and 3 adult trees (LOT99062303);
Although I saw only one tree the forester
informed me that they were frequent in the
forest (RHEY2072201);

Confusing Species: None in the Proteaceae.
Easily confused with several other tree
species, especially since flowers usually
invisible in canopy. Young plants
unmistakable.
Records of identification queries = 7.

Variation and Taxonomy: Leaves were
thought to be smaller to the north, but
additional data shewed these to be
overlapping.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Faurea rochetiana (A.Rich.) Pic.Serm. subsp. *speciosa* 1851, 1950

Broad-leaf Beechwood

Breeblaarboekenhout

Other Common Names: Large-leaf Beechwood, Pussycat Tail, *kapfutsa*, *Mogwapi* (N-Sotho), *mugarahungwe*, *mugarohorwe*, *munhanganza*, *mutsatsati* (central Shona), *muzhenje*, *Segwapi* (N-Sotho), *Sicalaba* (Swazi), *umdwadwa* (siNdebele).

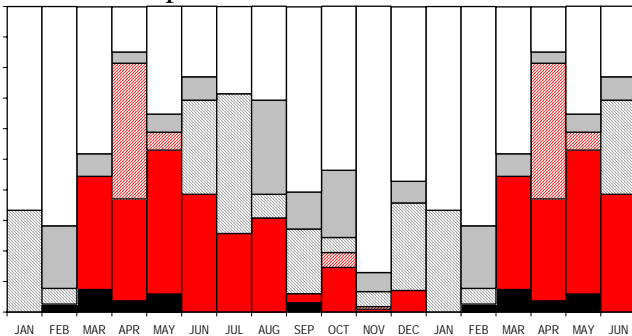
Other Scientific Names: *Leucospermum rochetiana* A. Rich 1851, *speciosa* Welw. 1869.

600 Records

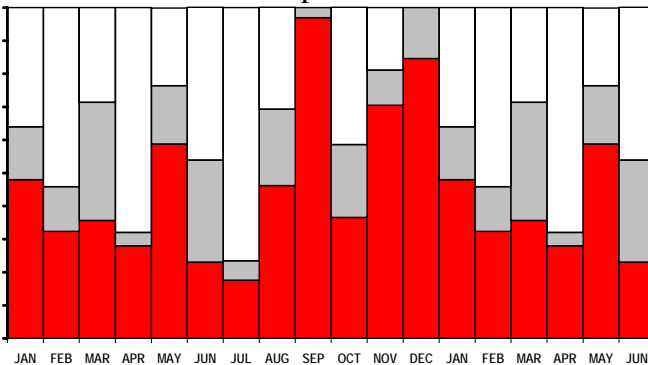
Population (591 records): 17% Common, 60% Frequent, 23% Rare.

Dispersion (479 records): 68% variable, 17% clumped, 13% widespread, 1% evenly distributed.

Flowering (509 records with: Jan 24, Feb 39, Mar 27, Apr 27, May 17, Jun 13, Jul 35, Aug 13, Sep 33, Oct 41, Nov 226, Dec 14): Buds from Apr; Flowering from Mar to Aug and Oct; Peak Flowering from not prominent; Over from Dec to Jan and Jun to Jul and Sep; Fruit from Feb and Aug to Oct; Nothing from May to Mar. Peak levels at 81% in Apr. Historically recorded as flowering from Mar to Sep.



Growth (506 records with: Jan 25, Feb 37, Mar 28, Apr 25, May 17, Jun 13, Jul 34, Aug 13, Sep 33, Oct 41, Nov 227, Dec 13): Much from Aug to Jun; Rare from Jan, Mar, Jun, Aug and Oct; None from Oct to Aug. Peak levels at 100% in Sep and Dec.

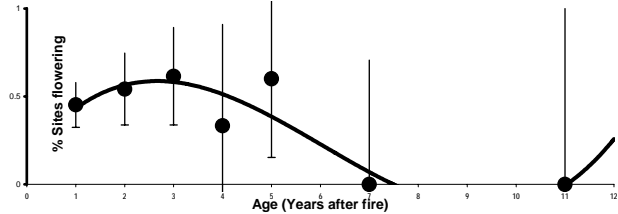


Seedlings (155 records): Absent in 77%; fewer seedlings than prefire adults in 17 cases, and more in 1 case. Seedlings found in Jan (2),

Mar (2), Apr, Jun (2), Jul (3), Sep (2) and Oct (6).

Fire Survival (197 records): 49% resprouted from aerial trunks, 41% escaped fires in fire-safe areas, 10% resprouted from underground boles.

Age to first flowering: First flowers recorded at 1 year, 50% estimated at 2 years, and 100% not recorded.



Height (546 records): 5% 0.2-1 m tall, 18% 1-2 m tall, 68% 2-5 m tall, 8% taller than 5 m.

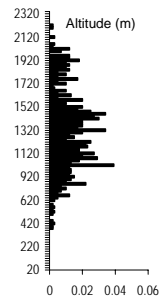
Pollinators (11 records): 55% flies, 36% bees or wasps, 9% butterflies or moths.

Detailed Pollinators (1 record): Honey Bee.

Habitat:

Distance to Ocean (596 records): 100% inland - further than 2 km from coast.

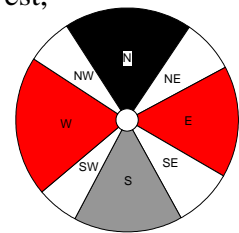
Altitude (596 records): 360 - 2120 m; 960_{lq} - 1200_{med} - 1380_{uq}m.



Landform (552 records): 61% deep soil, 27% shallow soil, 10% rocky outcrops, 2% riverine.

Slope (549 records): 47% steep incline, 44% gentle incline, 4% platform, 4% hill top.

Aspect (513 records): 27% West, 26% North, 24% East, 23% South.



Soil Type (539 records): 72% loamy, 13% sandy, 10% clayey, 3% gravelly, 2% rocky.

Soil Colour (541 records): 63% brown, 20% red, 7% grey, 7% orange, 1% black, 1% yellow.

Geology (342 records): 63% granite, 13% shale, 13% sandstone, 8% dolerite, 1% basalt.

Vegetation (547 records): 48% wooded grassland, 24% grassland, 21% woodland, 4% shrubland, 1% thicket.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (total): 421 400 km² with 6% conserved and 39% lost; Occupancy:

1 119 km² with 8% conserved and 23% lost. Fragmentation index: 0%.

Nature Reserves (596 records): 23% in nature reserves.

Habitat destruction (536 records): 75% extensive natural habitat, 10% islands,

7% road verges, 4% naturally linear habitats,
3% naturally fragmented habitats,
1% corridors.

Alien Invasive Species (527 records):
53% none, 20% *Pinus*, 13% Fabaceae
(chiefly alien *Acacia*), 8% Myrtaceae,
6% other aliens.

Alien Density (526 records): 53% alien-free,
31% sparse, 10% abundant, 5% dense.

Cultivation & Utilization:

Picking (300 records): 99% no sign of picking,
0.3% lightly picked, 0.3% severely picked.

Cultivation Status: No noted cultivation.

Atlasers Notes:

In its stunted form (often less than 1 m tall) is
very characteristic of serpentine patches on
Songoimveld (MSA95030302);

Some pink to red flowered and some green to
white flowered (RHEY0061605);

Have not grown at all - they are static: which is
surprising as good rain fell late in the season
and ran off quickly (IBG93051001);

Probably too much competition with grasses for
seedlings - never seen anywhere to date
(IBG93052802);

Been chopped for wood - other trees not
touched - due to relatively soft wood?
(RHEY0092403); Some cutting of trees and
bark removal observed (KPB92120301);
Large tree ringbanded for mutu
(AGR98111020); Huge tree with bark
stripping - suspected for mutu
(GYC98021306); Trunks used as fence posts
(AGR98111217);

Flowers with fantastic buttered corn cob scent -
no pollinators seen (mid morning - 30
minutes) (AGRY4071508);

Confusing Species: None noted.

Records of identification queries = 7.

Variation and Taxonomy: No variation noted,
other than stunted forms on serpentine soils.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

***Faurea rubriflora* Baker 1989**
Manica Beechwood

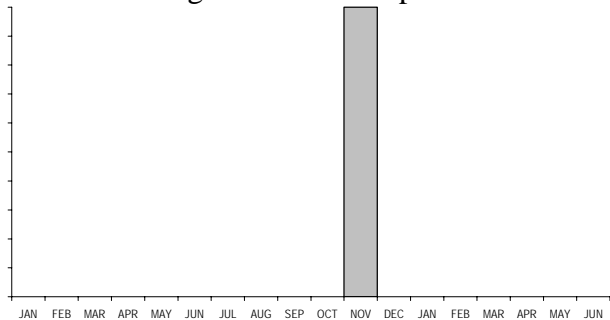
Other Common Names: None known.
Other Scientific Names: *None*.

3 Records

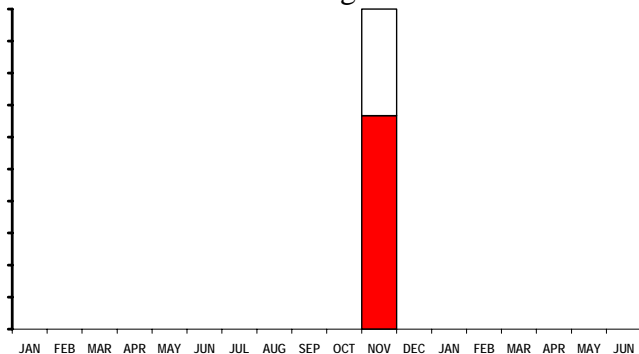
Population (3 records): 100% Rare.

Dispersion (3 records): 67% variable, 33% clumped.

Flowering (3 records with: Jan 0, Feb 0, Mar 0, Apr 0, May 0, Jun 0, Jul 0, Aug 0, Sep 0, Oct 0, Nov 3, Dec 0): Fruit from Nov; Peak levels not meaningful. Historically recorded as flowering from Mar to Apr.



Growth (3 records with: Jan 0, Feb 0, Mar 0, Apr 0, May 0, Jun 0, Jul 0, Aug 0, Sep 0, Oct 0, Nov 3, Dec 0): Much and None from Nov. Peak levels not meaningful.



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

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

Age to first flowering: No data.

Height (3 records): 33% 2-5 m tall, 67% taller than 5 m.

Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (3 records): 100% inland - further than 2 km from coast.

Altitude (3 records): 1200 - 1500 m; 1200_{lq} - 1220_{med} - 1220_{uq}m.

Landform (3 records): 67% riverine, 33% shallow soil.

Slope (3 records): 33% steep incline, 33% gentle incline, 33% valley bottom.

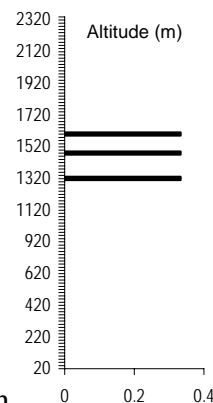
Aspect (1 record): 100% South.

Soil Type (3 records): 67% rocky, 33% loamy.

Soil Colour (3 records): 100% grey.

Geology (3 records): 100% sandstone.

Vegetation (3 records): 67% forest, 33% woodland.



Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence and Occupancy not computed.

Nature Reserves (3 records): 100% in nature reserves - well conserved.

Habitat destruction (3 records): 100% naturally linear habitats.

Alien Invasive Species (3 records): 100% none.

Alien Density (3 records): 100% alien-free.

Cultivation & Utilization:

Picking (3 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlasers Notes:

None.

Confusing Species: None.

Records of identification queries = 2.

Variation and Taxonomy: None noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

***Faurea saligna* Harv. 1847**
Transvaal Beechwood
Transvaalboekenhout

Other Common Names: African Beech, African Beechwood, Bushveld Beechwood, Red Beechwood, *Beechwood*, *Transvaal-Buche*, *Beukenhout*, *Bosveldboekenhout*, *Geelboekenhout*, *Rooiboekenhout*, *Waboom*, *Witboekenhout*, *isiQalaba* (Swazi), *isiSefo* (Zulu), *kapfutsa*, *Mofufu* (Setswana), *Mohlako* (N-Sotho), *Mongena* (N-Sotho), *Monyena* (Setswana), *mugarahorwe*, *munyanganza*, *muTango* (Venda), *mutsatsati* (central Shona), *muzhenje*, *N'wamidzumba* (Tsonga), *Sicalaba* (Swazi), *Siqalaba* (Swazi), *umCalathole* (Zulu), *umdwadwa* (siNdebele).

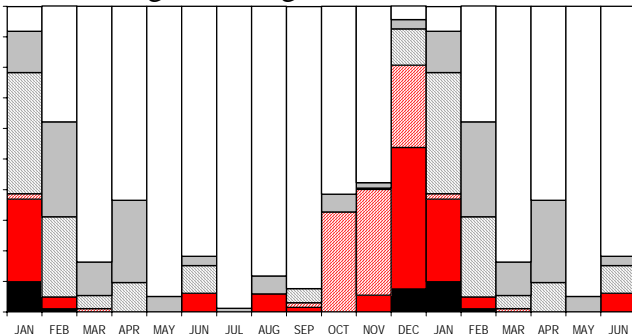
Other Scientific Names: *None*.

1224 Records

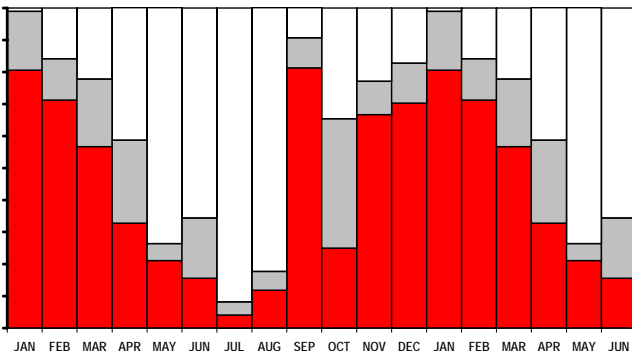
Population (1182 records): 23% Common, 65% Frequent, 13% Rare.

Dispersion (1095 records): 69% variable, 22% clumped, 8% widespread, 1% evenly distributed.

Flowering (988 records with: Jan 111, Feb 103, Mar 92, Apr 52, May 39, Jun 33, Jul 85, Aug 17, Sep 65, Oct 52, Nov 272, Dec 67): Buds from Oct to Dec; Flowering from Dec to Jan; Peak Flowering from not prominent; Over from Jan to Feb; Fruit from Feb and Apr; Nothing from Feb to Nov. Peak levels at 93% in Dec. Historically recorded as flowering from Aug to Feb.



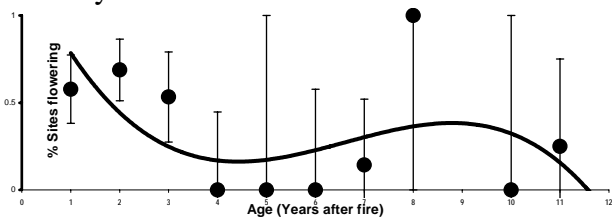
Growth (971 records with: Jan 103, Feb 101, Mar 90, Apr 58, May 38, Jun 32, Jul 73, Aug 17, Sep 64, Oct 52, Nov 279, Dec 64): Much from Sep to May; Rare from Mar to Apr and Oct; None from Mar to Aug and Oct to Nov. Peak levels at 99% in Jan.



Seedlings (254 records): Absent in 84%: fewer seedlings than prefire adults in 16 cases, and more in 4 cases. Seedlings found in Jan, Feb, Mar (2), Apr (4), Jun (5), Jul (2), Sep (2), and Dec (3).

Fire Survival (255 records): 69% resprouted from aerial trunks, 26% escaped fires in fire-safe areas, 4% resprouted from underground boles.

Age to first flowering: First flowers recorded at 1 year, 50% estimated at 1 year, and 100% rarely recorded.



Height (1156 records): 3% 0.2-1 m tall, 9% 1-2 m tall, 59% 2-5 m tall, 29% taller than 5 m.

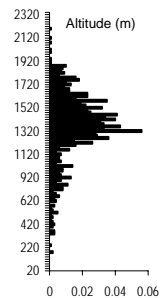
Pollinators (17 records): 53% bees or wasps, 24% none observed, 18% beetles, 6% birds.

Detailed Pollinators (6 records): Honey Bee (3), Wasp (unspecified) (2), Solitary Bee.

Habitat:

Distance to Ocean (1197 records): 100% inland - further than 2 km from coast.

Altitude (1197 records): 160 - 2100 m; 1140 *lq* - 1260 *med* - 1380 *uq*m.

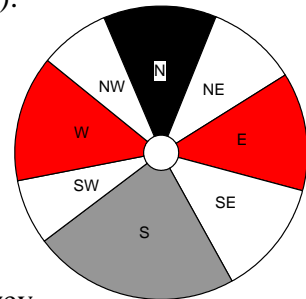


Landform (1164 records): 67% deep soil, 24% shallow soil, 6% riverine, 3% rocky outcrops.

Slope (1175 records): 62% gentle incline, 27% steep incline, 7% platform, 3% hill top, 1% valley bottom.

Aspect (1082 records):

34% South,
24% East,
21% West,
21% North.



Soil Type (1065 records):

55% loamy,
33% sandy,
6% gravelly,
4% rocky, 2% clayey.

Soil Colour (1056 records): 64% brown, 20% red, 7% grey, 6% orange, 3% yellow.

Geology (675 records): 49% sandstone, 20% granite, 17% shale, 9% conglomerate, 2% dolerite, 1% basalt.

Vegetation (1178 records): 56% wooded grassland, 29% woodland, 10% grassland, 3% shrubland, 1% thicket.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (total): 1 355 000 km² with 2% conserved and 37% lost; Occupancy: 2 254 km² with 30% conserved and 12% lost. Fragmentation index: 0%.

Nature Reserves (1197 records): 45% in nature reserves.

Habitat destruction (1154 records): 89% extensive natural habitat, 5% islands, 3% naturally linear habitats, 2% road verges.

Alien Invasive Species (1095 records): 77% none, 7% other aliens, 6% Myrtaceae, 5% Fabaceae (chiefly alien *Acacia*), 4% *Pinus*.

Alien Density (1089 records): 78% alien-free, 17% sparse, 4% abundant, 1% dense.

Cultivation & Utilization:

Picking (717 records): 99% no sign of picking, 1% severely picked, 0.1% lightly picked.

Cultivation Status: Plantings - 1 record.

Witch's Broom Infestation: 1 record (0.08%).

Atlasers Notes:

An absence of trees of different ages - a few 2m high poorly grown - stunted gnarled (IBG94012301); Dwarf trees - larger trees latter found at lower altitudes - due to frost? (LOT98012601);

Possibly flowering in the past and giving rise to bushes surrounding it no indication that

flowering took place this year (ELO95051101);

All plants sterile (GYC98021308);

Trunks sawed off and used for firewood!

(AGR99110213); Collected for firewood

(AGR99110217); Rural area most trees cut

down for firewood (LOTY0012105); Signs

of woodcutting before area become part of

reserve in 1986 (MSA93042302); Almost as

if the rural settlements have cut all the other

trees down and left these two standing.

Trees are full of seed - do they perhaps leave the well known prolific fruiterers?

(LOTY0012301);

Lots of Voelent *Viscum* present

(RHEY0012309); Witches Broom parasite

abundant (JOOY0090302);

Confusing Species: Mistaken for *F. galpinii* and *F. rochetiana*.

Records of identification queries = 12

Records of corrected identification queries = 6.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

***Diastella* Salisb. ex Knight 1809**
Silkeypuffs

Anything specific to go in here?

Regarded by Robert Brown (1810) as a subgroup of *Mimetes* – a view which was retained until 1912.

Diastella myrtifolia (Thunb.) Salisb. ex Knight 1718, 1809
Tulbagh Silkeypuff

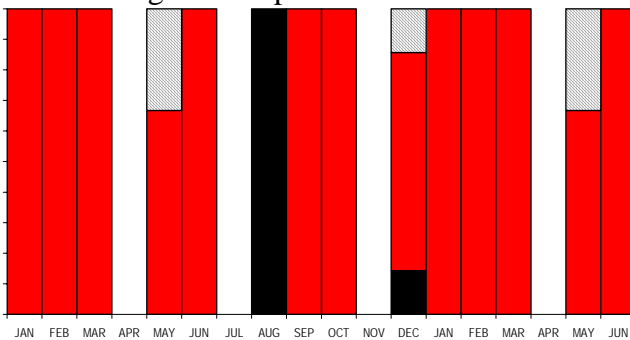
Other Common Names: Myrtle-leaf Diastella.
Other Scientific Names: *dichotoma* (Lam.) 1792.

32 Records

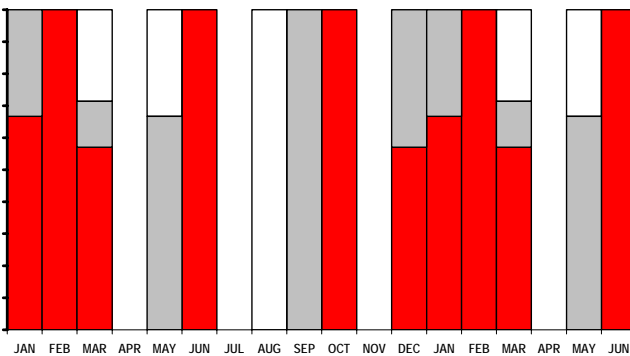
Population (32 records): 31% Common, 63% Frequent, 6% Rare.

Dispersion (32 records): 91% clumped, 9% variable.

Flowering (32 records with: Jan 6, Feb 1, Mar 7, Apr 0, May 3, Jun 2, Jul 0, Aug 1, Sep 4, Oct 1, Nov 0, Dec 7): Buds not recorded from Aug; Over from May; Fruit and Nothing not recorded. Data inadequate for peak levels. Historically recorded as flowering from Sep to Jan.



Growth (32 records with: Jan 6, Feb 1, Mar 7, Apr 0, May 3, Jun 2, Jul 0, Aug 1, Sep 4, Oct 1, Nov 0, Dec 7): Data inadequate; trends suggest growth peaking in Feb with a late winter (Aug) low. Data inadequate for peak levels.



Seedlings (13 records): All without any seedlings present.

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

Age to first flowering: Some 3 records of 100% flowering at 8 years.



Height (32 records): 3% 0-0.2 m tall, 72% 0.2-1 m tall, 25% 1-2 m tall.

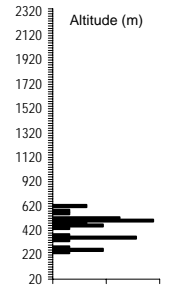
Pollinators (1 record): 100% beetles.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (32 records): 100% inland - further than 2 km from coast.

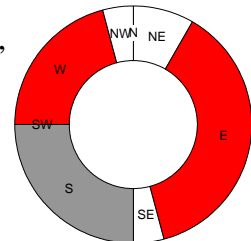
Altitude (32 records): 220 - 620 m; 340_{lq} - 380_{med} - 500_{uq}m.



Landform (32 records): 84% deep soil, 13% shallow soil, 3% riverine.

Slope (32 records): 56% gentle incline, 28% platform, 13% valley bottom, 3% steep incline.

Aspect (24 records): 44% East, 27% South, 23% West, 6% North.



Soil Type (32 records): 94% sandy, 3% loamy, 3% gravelly.

Soil Colour (30 records): 67% grey, 27% white, 3% brown, 3% yellow.

Geology (32 records): 100% sandstone.

Vegetation (32 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(i,v).

Occurrence (Fynbos): 29 km² with 40% conserved and 21% lost; **Occupancy:** 20 km² with 68% conserved and 8% lost. **Fragmentation index:** 69%.

Nature Reserves (32 records): 91% in nature reserves - well conserved.

Habitat destruction (32 records): 100% extensive natural habitat.

Alien Invasive Species (31 records): 39% none, 32% *Pinus*, 16% *Hakea*, 13% Fabaceae (chiefly alien *Acacia*).

Alien Density (31 records): 39% alien-free, 52% sparse, 6% abundant, 3% dense.

Cultivation & Utilization:

Picking (20 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlasers Notes:

- Protracted flowering period (GEH93051101).
- On sandy banks above and on edges of streams (ASP93061304); Along stream bank and scattered clumps in sea of restios (GEH94010812).

Confusing Species: None.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

***Diastella parilis* Salisb ex Knight 1809**
Worcester Silkypuff

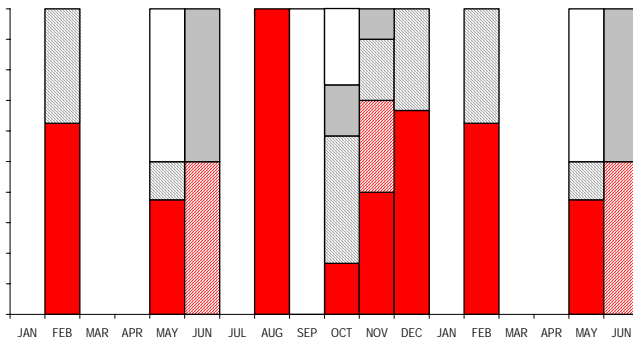
Other Common Names: Matched Diastella.
Other Scientific Names: *None*.

46 Records

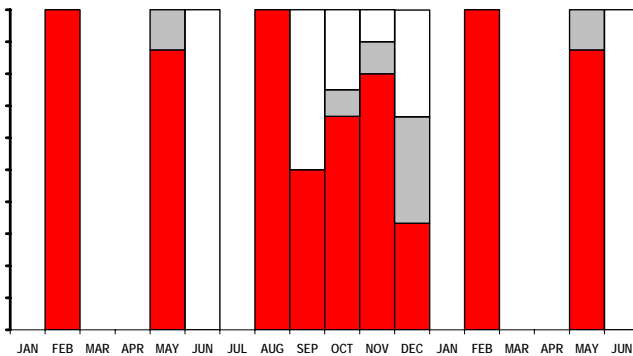
Population (46 records): 2% Abundant, 46% Common, 46% Frequent, 7% Rare.

Dispersion (46 records): 59% variable, 33% clumped, 9% widespread.

Flowering (46 records with: Jan 0, Feb 8, Mar 0, Apr 0, May 8, Jun 2, Jul 0, Aug 1, Sep 2, Oct 12, Nov 10, Dec 3): Buds from Jun and Nov; Flowering apparently all year round; Peak Flowering not recorded; Over from Oct to May; Fruit from Jun; Nothing from May to Oct. Data inadequate for estimating peak levels. Historically recorded as flowering from Jul to Jan.



Growth (46 records with: Jan 0, Feb 8, Mar 0, Apr 0, May 8, Jun 2, Jul 0, Aug 1, Sep 2, Oct 12, Nov 10, Dec 3): Much from Aug to May; Rare from Nov to Dec; None from Oct to Dec. Data inadequate for estimating peak levels.



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

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

Age to first flowering: Some 4 records of 100% flowering at 9 years.



Height (46 records): 4% 0-0.2 m tall, 96% 0.2-1 m tall.

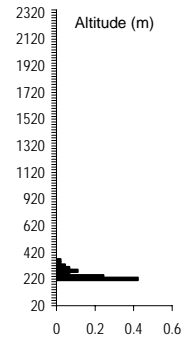
Pollinators (10 records): 60% beetles, 20% butterflies or moths, 10% bees or wasps, 10% flies.

Detailed Pollinators (6 records): Monkey Beetle (5), Wasp (unspecified).

Habitat:

Distance to Ocean (45 records): 100% inland - further than 2 km from coast.

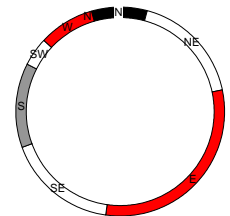
Altitude (45 records): 200 - 360 m; 200_{lq} - 220_{med} - 220_{uq} m.



Landform (45 records):

93% deep soil, 7% swamp.
Slope (45 records): 36% gentle incline, 33% platform, 31% valley bottom.

Aspect (23 records): 48% East, 24% South, 17% North, 11% West.



Soil Type (45 records): 89% sandy, 7% loamy, 2% peaty, 2% gravelly.

Soil Colour (45 records): 56% grey, 22% brown, 16% white, 7% black.

Geology (37 records): 76% sandstone, 22% Tertiary sands, 3% conglomerate.

Vegetation (45 records): 98% shrubland, 2% agricultural lands.

Conservation Status and Threat:

Red Data List Status: Endangered A2c+4c.

Occurrence (Fynbos): 53 km² with 0% conserved and 48% lost; Occupancy: 31 km² with 0% conserved and 60% lost.

Fragmentation index: 58%.

Nature Reserves (45 records): 0% in nature reserves - unconserved.

Habitat destruction (44 records): 77% extensive natural habitat, 20% islands, 2% road verges.

Alien Invasive Species (44 records): 61% *Hakea*, 18% Fabaceae (chiefly alien *Acacia*), 11% *Pinus*, 5% none, 2% Myrtaceae, 2% other aliens.

Alien Density (43 records): 5% alien-free, 65% sparse, 26% abundant, 2% dense, 2% impenetrable.

Cultivation & Utilization:

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

Atlassers Notes:

- Occurs in mat form at this locality (SHR95061601);
- Many plants have died (GEH95051702); Just more than 10 plants - almost as many dead (SMRY2061307).
- Grows in patches on edge of *Erica bergiana* patches in most soil (WIJ99110303);

Confusing Species: None.
Records of identification queries = 2

Variation and Taxonomy: None noted, apart
from the single mat form at **SHR95061601**.

Distribution: Add.
INCLUDEPICTURE
"C:\\temp\\atlas\\DIPARI_m.jpg" *
MERGEFORMAT \d

Diastella divaricata ssp. *divaricata* (Bergius) Rourke 1766, 1976
Peninsula Silky-puff

Other Common Names: Serpyllum-leaf
 Diastella, Vaccinium-leaf Diastella.

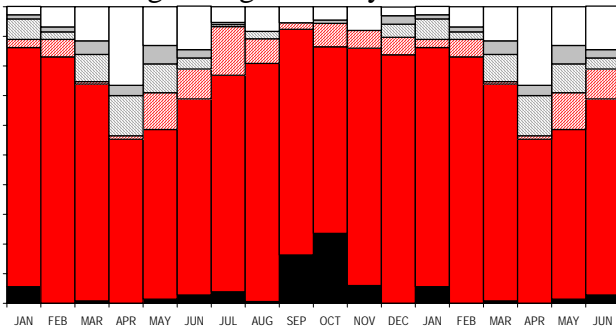
Other Scientific Names: *intermedia* (Buek. ex Meisn.) 1856, *parviflora* (Klotzsch ex Krauss) 1845, *serpyllifolia* Salisb. ex Knight 1809, *vaccinifolia* Salisb. ex Knight 1809.

1368 Records

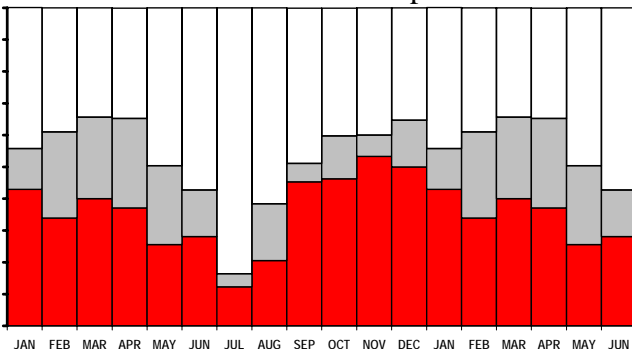
Population (1364 records): 35% Common, 53% Frequent, 11% Rare.

Dispersion (1291 records): 74% variable, 14% clumped, 10% widespread, 2% evenly distributed.

Flowering (1352 records with: Jan 72, Feb 118, Mar 130, Apr 170, May 145, Jun 109, Jul 152, Aug 157, Sep 92, Oct 89, Nov 50, Dec 68): Buds from May to Jul; Flowering from throughout the year, but with an Apr to Jun low (at about 50-60%); Peak Flowering from Sep to Oct; Over from Apr to May; Fruit rare; Nothing from Mar to Jun. Peak levels at 96% in Jan. Historically recorded as flowering throughout the year.



Growth (1275 records with: Jan 70, Feb 118, Mar 125, Apr 167, May 121, Jun 96, Jul 146, Aug 151, Sep 86, Oct 82, Nov 45, Dec 68): Much from Aug to Jun; Rare from Dec to Aug and Oct; None from all year round. Peak levels at 65% in Mar-Apr.

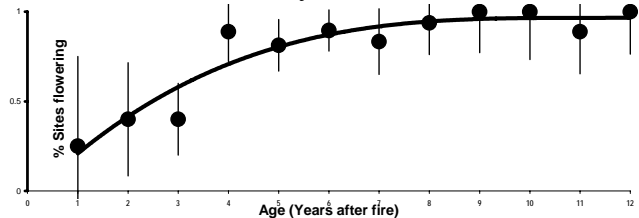


Seedlings (363 records): Absent in 74%: fewer seedlings than prefire adults in 41 cases, and more in 6 cases. Seedlings found in Feb (14), Mar (4), Apr (2), May (4), Jun, Jul (3), Aug (16), Sep, Oct, and Nov.

Fire Survival (66 records): 67% survived by seedlings only, 18% resprouted from underground boles, 14% escaped fires in fire-safe areas, 2% eliminated from the area by fires. The resprouting recorded is

probably due to plants that only burned on the periphery – allowing the inner branches to survive.

Age to first flowering: First flowers recorded at 1 year, 50% estimated at 3-4 years, and 100% recorded at 9 years.



Height (1361 records): 50% 0-0.2 m tall, 50% 0.2-1 m tall.

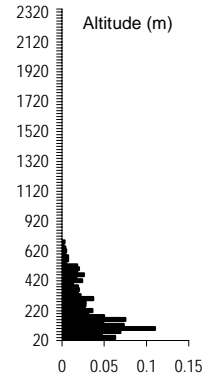
Pollinators (10 records): 70% beetles, 20% bees or wasps, 10% flies.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (1337 records): 62% coastal - less than 2 km from coast.

Altitude (1340 records): 20 - 680 m; 80_{lq} - 140_{med} - 220_{uq}m.

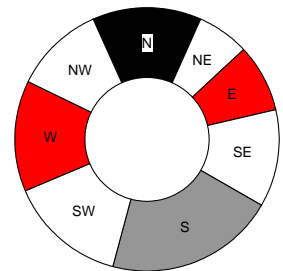


Landform (1333 records): 76% deep soil, 14% shallow soil, 7% rocky outcrops, 2% swamp.

Slope (1320 records): 55% gentle incline, 23% platform, 11% steep incline, 8% hill top, 4% valley bottom.

Aspect (977 records):

34% South,
 27% West,
 23% North,
 17% East.



Soil Type (1337 records): 91% sandy, 6% loamy, 1% peaty, 1% gravelly.

Soil Colour (1337 records): 72% grey, 16% white, 8% brown, 3% black.

Geology (1318 records): 98% sandstone, 1% Tertiary sands.

Vegetation (1338 records): 99% shrubland.

Conservation Status and Threat:

Red Data List Status: Least Concern.
 Occurrence (Fynbos): 207 km² with 71% conserved and 20% lost; Occupancy: 210 km² with 70% conserved and 13% lost.
 Fragmentation index: 77%.

Nature Reserves (1340 records): 88% in nature reserves - well conserved.

Habitat destruction (1311 records): 97% extensive natural habitat, 2% naturally linear habitats.

Alien Invasive Species (1257 records):
69% none, 24% Fabaceae (chiefly alien
Acacia), 6% *Pinus*.

Alien Density (1254 records): 69% alien-free,
28% sparse, 2% abundant.

Cultivation & Utilization:

Picking (800 records): 100% no sign of
picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

- Only pure white flowered plants seen (AGR99101012, CRS95021502).
- Survived fire by forming dense mats which only burn at their edges (AGR92101302); One resprouter seen at this site: only seedlings seen at other times (AKS94072003).

- The recent fire seems to have killed it off - could find no trace (PVR95070501); No sign of the plants previously seen at this site (PVR95072302); Only on unburnt area (AKS92081203).

Confusing Species: None, probably because it is the only *Diastella* on the Peninsula..
Records of identification queries = 3

Variation and Taxonomy: None noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Diastella divaricata ssp. *montana* Rourke 1976
Mountain Silky-puff

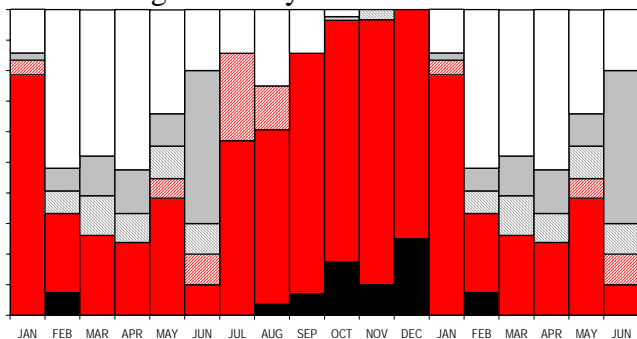
Other Common Names: None known.
Other Scientific Names: *None*.

381 Records

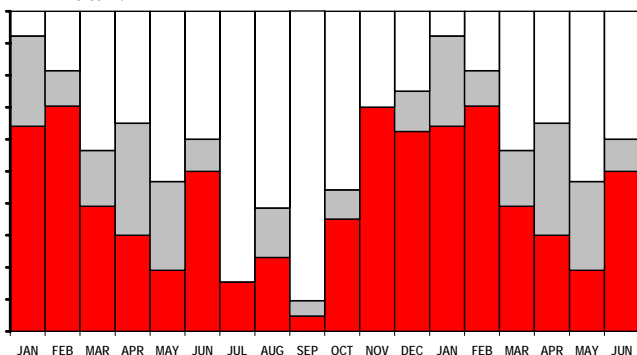
Population (374 records): 25% Common, 59% Frequent, 16% Rare.

Dispersion (342 records): 67% variable, 30% clumped, 2% widespread, 1% evenly distributed.

Flowering (378 records with: Jan 42, Feb 27, Mar 23, Apr 21, May 47, Jun 10, Jul 14, Aug 28, Sep 42, Oct 86, Nov 30, Dec 8): Buds from Jun to Aug; Flowering from all year round; Peak Flowering from Oct to Dec; Over from Mar to Jun; Fruit from Mar to Jun; Nothing from Jan to Sep. Peak levels at 100% in Nov-Dec. Historically recorded as flowering from all year round.



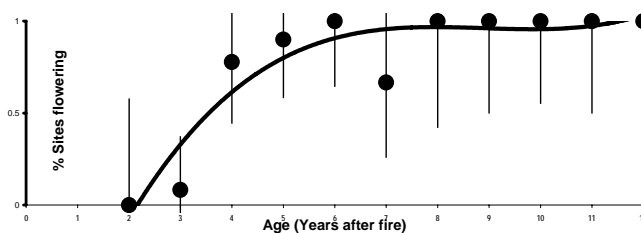
Growth (362 records with: Jan 39, Feb 27, Mar 23, Apr 20, May 47, Jun 10, Jul 13, Aug 26, Sep 42, Oct 77, Nov 30, Dec 8): Much from Oct to Aug; Rare from Dec to May and Aug; None from Feb to Dec. Peak levels at 92% in Jan.



Seedlings (163 records): Absent in 96%: fewer seedlings than prefire adults in 1 cases, and more in 2 cases. Seedlings found in Apr (2) and Jun.

Fire Survival (11 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.

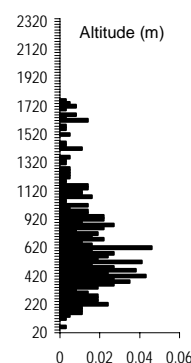


Height (377 records): 41% 0-0.2 m tall, 59% 0.2-1 m tall.

Pollinators (1 record): 100% bees or wasps.
Detailed Pollinators: No additional data.

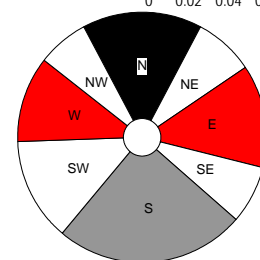
Habitat:

Distance to Ocean (368 records): 100% inland - further than 2 km from coast.
Altitude (368 records): 40 - 1660 m; 380_{lq} - 560_{med} - 780_{uq}m.



Landform (365 records): 79% deep soil, 17% shallow soil, 3% rocky outcrops.
Slope (367 records): 57% gentle incline, 29% steep incline, 9% hill top, 4% platform, 1% cliff.

Aspect (329 records): 36% South, 22% North, 21% East, 21% West.



Soil Type (368 records): 67% sandy, 17% loamy, 6% peaty, 6% gravelly, 4% rocky, 1% clayey.

Soil Colour (367 records): 66% grey, 18% brown, 10% black, 5% white, 1% orange.

Geology (364 records): 90% sandstone, 9% shale.

Vegetation (366 records): 97% shrubland, 2% plantations, 1% grassland.

Conservation Status and Threat:

Red Data List Status: Vulnerable A2c.

Occurrence (Fynbos): 1 408 km² with 32% conserved and 30% lost; **Occupancy:** 295 km² with 51% conserved and 16% lost. **Fragmentation index:** 14%.

Nature Reserves (368 records): 68% in nature reserves - well conserved.

Habitat destruction (360 records): 95% extensive natural habitat, 4% islands.

Alien Invasive Species (360 records): 61% *Pinus*, 23% none, 9% Fabaceae (chiefly alien *Acacia*), 7% *Hakea*.

Alien Density (359 records): 23% alien-free, 69% sparse, 6% abundant, 2% dense.

Cultivation & Utilization:

Picking (244 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

- Is Intermediate Population with *D. fraterna* - most data suggest *D. divaricata* (AGRY1012802); Atlassed as *D. fraterna* - is intermediate population with *D. divaricata* (NAH98081201 - herbarium specimen, PMR96031801).

Confusing Species: *Diastella fraterna* – especially at High Noon in the Highlands State Forest where intermediates occur. Rarely with *D. thymeleoides thymeleoides*, which is erect.

Records of identification queries = 15.
Records of corrected identification queries = 4.

Variation and Taxonomy: None known – although approaches *D. fraterna* at High Noon.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Diastella fraterna Rourke 1976 Palmiet Silky-puff

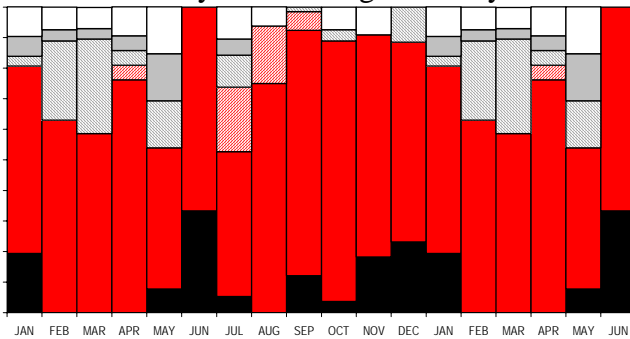
Other Common Names: None known.
Other Scientific Names: *None*.

294 Records

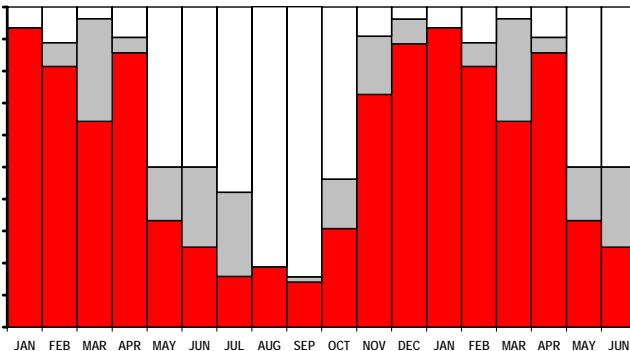
Population (288 records): 21% Common, 69% Frequent, 10% Rare.

Dispersion (277 records): 53% variable, 38% clumped, 7% widespread, 3% evenly distributed.

Flowering (289 records with: Jan 31, Feb 27, Mar 29, Apr 21, May 13, Jun 3, Jul 19, Aug 16, Sep 66, Oct 27, Nov 11, Dec 26): Buds from Jul to Aug; Flowering from all year round; Peak Flowering from Nov to Jan and Jun and Sep; Over from Feb to Mar and Apr to May; Fruit from May; Nothing from May and Jul. Peak levels at 100% in Jun, Aug and Dec. Historically recorded as flowering intermittently from throughout the year.



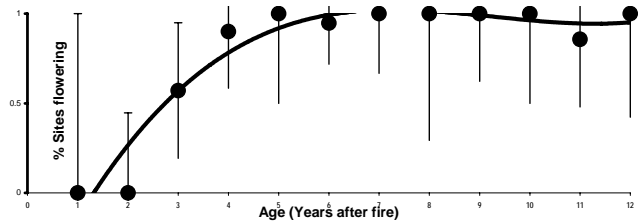
Growth (285 records with: Jan 31, Feb 27, Mar 28, Apr 21, May 12, Jun 4, Jul 19, Aug 16, Sep 64, Oct 26, Nov 11, Dec 26): Much from Oct to Jun; Rare from Mar, May to Jul and Oct to Nov; None from May to Oct. Peak levels at 96% in Mar.



Seedlings (131 records): Absent in 91%; fewer seedlings than prefire adults in 4 cases, and more in 2 cases. Seedlings found in Jan, Aug, Oct and Dec (3).

Fire Survival (11 records): 91% survived by seedlings only, 9% eliminated from the area by fires.

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



Height (289 records): 17% 0-0.2 m tall, 83% 0.2-1 m tall.

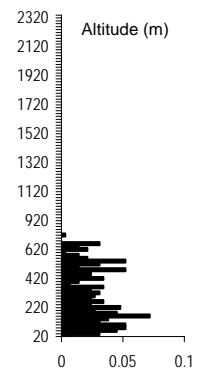
Pollinators (6 records): 67% bees or wasps, 33% beetles.

Detailed Pollinators (2 records): Honey Bee.

Habitat:

Distance to Ocean (291 records): 68% inland - further than 2 km from coast.

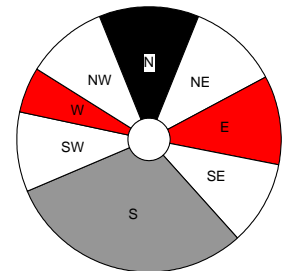
Altitude (291 records): 20 - 720 m; 120_{lq} - 240_{med} - 420_{uq}m.



Landform (289 records): 71% deep soil, 24% shallow soil, 5% rocky outcrops.

Slope (289 records): 50% gentle incline, 36% steep incline, 7% hill top, 7% platform, 1% valley bottom.

Aspect (257 records): 41% South, 22% North, 22% East, 15% West.



Soil Type (289 records): 67% sandy, 17% loamy, 6% gravelly, 5% peaty, 4% rocky, 2% clayey.

Soil Colour (288 records): 72% grey, 10% brown, 9% black, 8% white, 1% yellow.

Geology (286 records): 90% sandstone, 7% shale, 2% Tertiary sands, 1% conglomerate.

Vegetation (289 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 173 km² with 65% conserved and 11% lost; **Occupancy:** 150 km² with 71% conserved and 8% lost. **Fragmentation index:** 83%.

Nature Reserves (291 records): 65% in nature reserves - well conserved.

Habitat destruction (286 records): 98% extensive natural habitat, 1% islands.

Alien Invasive Species (283 records): 58% none, 30% *Pinus*, 7% Fabaceae (chiefly alien *Acacia*), 3% Myrtaceae, 2% *Hakea*.

Alien Density (283 records): 58% alien-free, 39% sparse, 4% abundant.

Cultivation & Utilization:

Picking (192 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

D. fraterna somewhat intermediate in gizz and growth with *D. divaricata*, but measurements (leaf and flowerhead) give former (AGR99120805); Intermediate between *D. fraterna* and *D. divaricata* - heads too big for latter but growth habit intermediate (AGRY4031601).

Confusing Species: Most of confusion is with intermediate populations with *D. divaricata montana* near High Noon in the Highlands Forest Station. Sporadic confusion with *D. thymaeleoides* (both subspecies)
Records of identification queries = 21

Records of corrected identification queries = 19.

Variation and Taxonomy: None noted by atlassers - although approaches *D. divaricata* at High Noon. Rourke (1976) noted that some populations have distinctive brown, papery involucre bracts, but did not document any geographical details of this trait.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Diastella thymelaeoides ssp. *meridiana* Rourke 1976
Hangklip Silkypuff

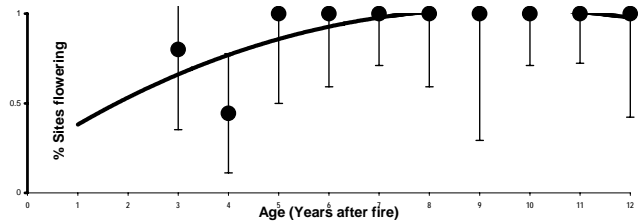
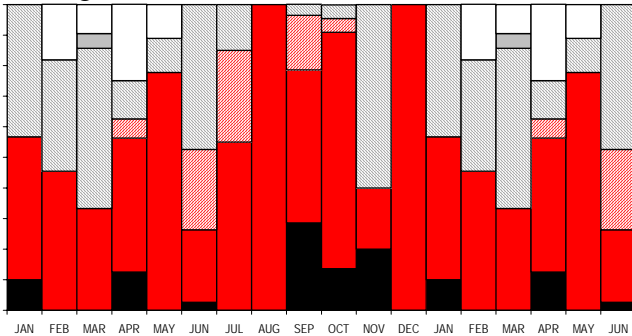
Other Common Names: None known.
Other Scientific Names: *None*.

220 Records

Population (218 records): 36% Common, 58% Frequent, 6% Rare.

Dispersion (214 records): 61% variable, 22% clumped, 14% widespread, 2% evenly distributed.

Flowering (218 records with: Jan 30, Feb 11, Mar 21, Apr 16, May 9, Jun 38, Jul 20, Aug 6, Sep 28, Oct 22, Nov 5, Dec 12): Buds from Jun to Jul and Sep; Flowering from all year round, with a dip in Jun; Peak Flowering from Jan, Apr and Sep to Nov; Over from Jan to Mar and Jun to Jul and Nov; Fruit only recorded in Mar; Nothing from Feb to May. Peak levels at 100% in Jun-Jan. Historically recorded as flowering from throughout the year, but peaking from Aug to Nov.



Height (216 records): 7% 0-0.2 m tall, 92% 0.2-1 m tall.

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

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

Habitat:

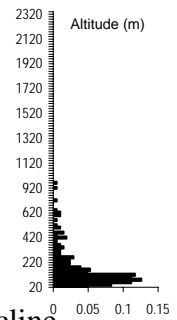
Distance to Ocean (206 records): 75% coastal - less than 2 km from coast.

Altitude (206 records): 20 - 860 m; 60_{lq} - 100_{med} - 120_{uq} m.

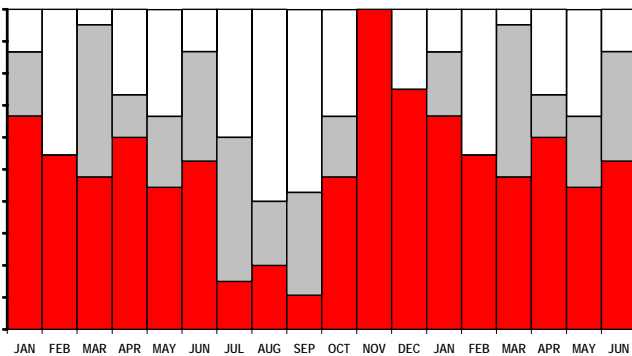
Landform (203 records): 54% deep soil, 32% shallow soil, 14% rocky outcrops, 1% swamp.

Slope (203 records): 49% gentle incline, 41% steep incline, 8% platform, 1% hill top, 1% valley bottom.

Aspect (187 records): 40% West, 26% South, 19% East, 15% North.



Growth (215 records with: Jan 30, Feb 11, Mar 21, Apr 15, May 9, Jun 38, Jul 20, Aug 5, Sep 28, Oct 21, Nov 5, Dec 12): Much from Oct to Jun; Rare from Mar and May to Sep; None from Feb and Apr to May and Jul to Dec. Peak levels at 100% in Nov.



Soil Type (202 records):

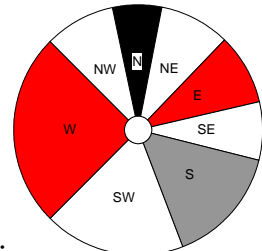
- 78% sandy,
- 8% loamy,
- 5% gravelly,
- 5% rocky, 2% peaty.

Soil Colour (202 records):

- 71% grey, 15% brown, 7% white, 5% black.

Geology (201 records): 96% sandstone, 3% shale, 1% Tertiary sands.

Vegetation (203 records): 99% shrubland.



Conservation Status and Threat:

Red Data List Status: Vulnerable A4c.

Occurrence (Fynbos): 68 km² with 58% conserved and 14% lost; Occupancy: 88 km² with 54% conserved and 11% lost. Fragmentation index: 100%.

Nature Reserves (206 records): 45% in nature reserves.

Habitat destruction (200 records): 95% extensive natural habitat, 3% islands, 3% naturally linear habitats.

Alien Invasive Species (202 records): 53% none, 34% Fabaceae (chiefly alien *Acacia*), 8% *Pinus*, 2% other aliens, 1% Myrtaceae, 1% *Hakea*.

Alien Density (202 records): 53% alien-free, 42% sparse, 4% abundant.

Cultivation & Utilization:

Picking (170 records): 99% no sign of picking, 0.6% lightly picked.

Seedlings (106 records): Absent in 98%: more seedlings than prefire adults in 1 case. Seedlings found in Jul.

Fire Survival (5 records): 80% survived by seedlings only, 20% escaped fires in fire-safe areas.

Age to first flowering: First flowers recorded at 3 years (no data from younger veld), 50% estimated at 2-3 years, and 100% recorded at 5 years.

Cultivation Status: No noted cultivation.

Atlassers Notes:

- Vlei Rat eating plants (CRS96092102).
- A very small beetle was on several plants at 13h30 on Berg Wind day (APE92060709).

Confusing Species: Mainly confused with *D. fraterna*, but outside of distribution range.

Also confused with *D. thymelaeoides thymelaeoides*, and *Leucospermum bolusii*.
Records of identification queries = 13

Records of corrected identification queries = 13.

Variation and Taxonomy: No recorded variation.

Distribution: Add.

Replaces *Leucospermum bolusii*.

INCLUDEPICTURE

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

MERGEFORMAT \d

Diastella thymelaeoides ssp. *thymelaeoides* (Berg.) Rourke 1766, 1976
Steenbras Silkypuff

Other Common Names: Bryum-flower
 Diastella.

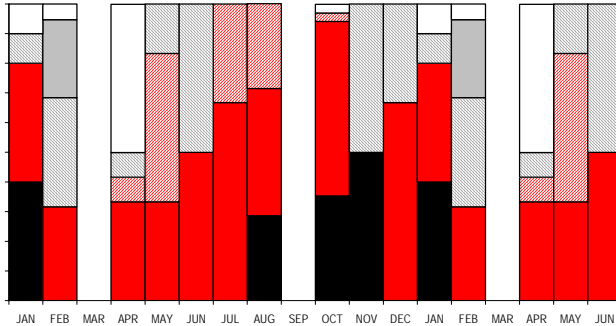
Other Scientific Names: *bryiflora* Salisb. ex Knight 1809, *concaya* (Lam) 1792, *villosa* Jacq ex Meisn 1856.

105 Records

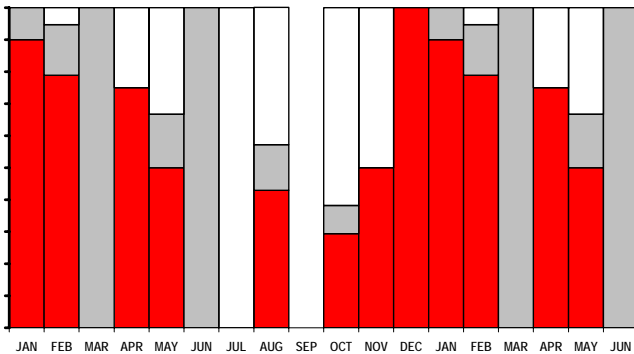
Population (105 records): 24% Common, 70% Frequent, 7% Rare.

Dispersion (103 records): 57% variable, 40% clumped, 3% widespread.

Flowering (104 records with: Jan 10, Feb 19, Mar 0, Apr 12, May 6, Jun 2, Jul 3, Aug 7, Sep 0, Oct 34, Nov 2, Dec 9): Buds from May and Jul to Aug; Flowering from all year round; Peak Flowering from Jan and Aug to Nov; Over from Feb and May to Jun and Nov to Dec; Fruit from Feb; Nothing from Jan to Apr. Peak levels at 100% in May to Dec. Historically recorded as flowering from throughout the year, but peaking in Aug to Nov.



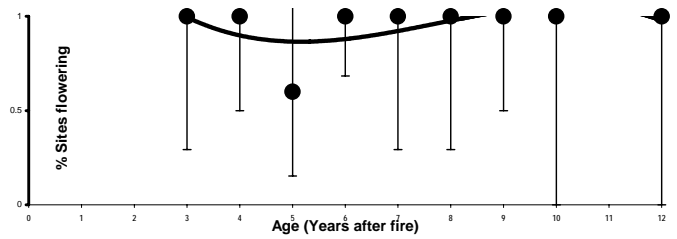
Growth (105 records with: Jan 10, Feb 19, Mar 1, Apr 12, May 6, Jun 2, Jul 3, Aug 7, Sep 0, Oct 34, Nov 2, Dec 9): Much from Aug to Feb and Apr to May; Rare from Feb to Mar and May to Jun; None from Apr to May and Jul to Nov. Peak levels at 100% in Dec to Mar.



Seedlings (39 records): All without any seedlings present.

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

Age to first flowering: First flowers recorded at 3 years (no data from younger veld), 50% estimated at 2-3 years, and 100% recorded at 3 years.



Height (104 records): 1% 0-0.2 m tall, 90% 0.2-1 m tall, 9% 1-2 m tall.

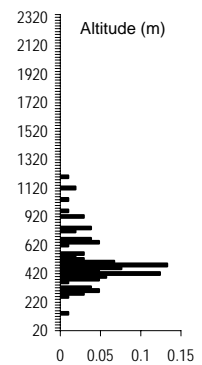
Pollinators (5 records): 60% beetles, 20% bees or wasps, 20% flies.

Detailed Pollinators (2 records): Monkey Beetle.

Habitat:

Distance to Ocean (105 records): 58% inland - further than 2 km from coast.

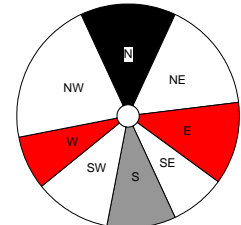
Altitude (105 records): 120 - 1100 m; 400_{lq} - 440_{med} - 480_{uq} m.



Landform (105 records): 71% deep soil, 26% shallow soil, 3% rocky outcrops.

Slope (105 records): 62% gentle incline, 34% steep incline, 2% platform, 1% hill top, 1% valley bottom.

Aspect (100 records): 35% North, 24% East, 23% West, 19% South.



Soil Type (104 records): 69% sandy, 11% loamy, 10% clayey, 6% gravelly, 5% rocky.

Soil Colour (105 records): 68% grey, 23% brown, 8% white, 2% orange.

Geology (104 records): 88% sandstone, 12% shale.

Vegetation (104 records): 99% shrubland, 1% grassland.

Conservation Status and Threat:

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

Occurrence (Fynbos): 132 km² with 37% conserved and 9% lost; Occupancy: 74 km² with 22% conserved and 7% lost. Fragmentation index: 54%.

Nature Reserves (105 records): 10% in nature reserves - inadequately conserved.

Habitat destruction (104 records): 97% extensive natural habitat, 3% naturally fragmented habitats.

Alien Invasive Species (103 records): 46% none, 37% *Pinus*, 11% Fabaceae (chiefly alien *Acacia*), 4% Myrtaceae, 3% *Hakea*.

Alien Density (102 records): 46% alien-free, 48% sparse, 6% abundant.

Cultivation & Utilization:

Picking (70 records): 99% no sign of picking,
1% lightly picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Pink-flowered form (MAJ99012901,
MAJ99082801)

Confusing Species: Mistaken for *D. fraterna*
and the subspecies *meridiana*. Material not
in flower confused with *Leucospermum*
truncatum.

Records of identification queries = 8.

Records of corrected identification queries = 3.

Variation and Taxonomy: A pink-flowered
form was noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Diastella buekii (Gand.) Rourke 1901, 1976
Franschhoek Silky-puff

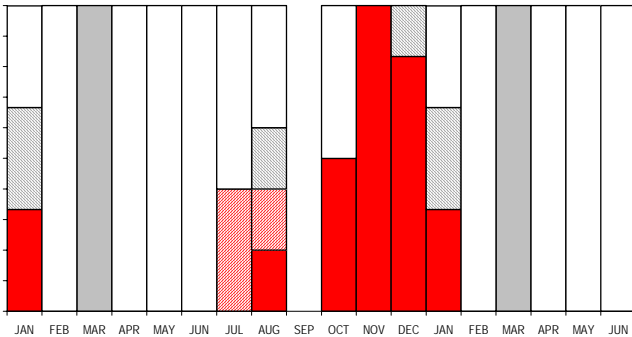
Other Common Names: Trailing Diastella.
Other Scientific Names: *humifusa* Salisb. ex Knight 1809.

51 Records

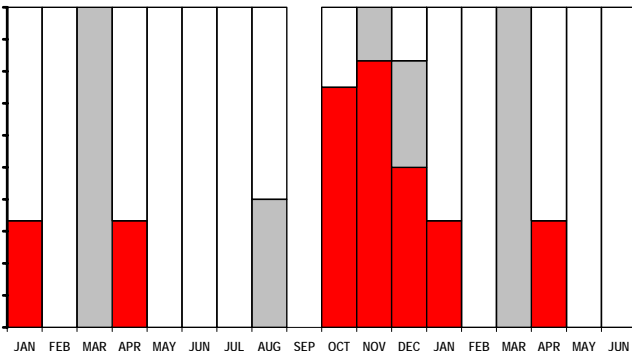
Population (50 records): 4% Common, 58% Frequent, 38% Rare.

Dispersion (41 records): 61% variable, 39% clumped.

Flowering (51 records with: Jan 3, Feb 1, Mar 1, Apr 3, May 14, Jun 3, Jul 5, Aug 5, Sep 0, Oct 4, Nov 6, Dec 6): Buds from Jul to Aug; Flowering from Aug to Jan; Peak Flowering not recorded; Over from Aug and Dec to Jan; Fruit from Mar; Nothing from Jan to Oct. Peak levels at 100% in Nov to Dec. Historically recorded as flowering from Aug to Nov.



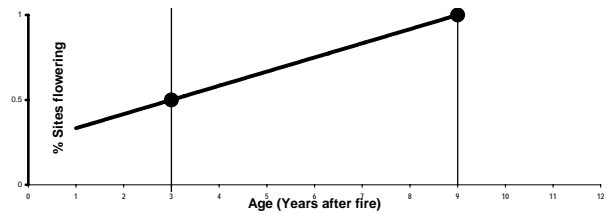
Growth (51 records with: Jan 3, Feb 1, Mar 1, Apr 3, May 14, Jun 3, Jul 5, Aug 5, Sep 0, Oct 4, Nov 6, Dec 6): Much from Oct to Jan and Apr; Rare from Mar, Aug and Nov to Dec; None from Dec to Feb and Apr to Oct. Peak levels at 100% in Nov.



Seedlings (17 records): All without any seedlings present.

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

Age to first flowering: First flowers recorded at 3 years (no data from younger veld), 50% estimated at 3 years, and 100% recorded at 9 years.



Height (50 records): 100% 0-0.2 m tall.

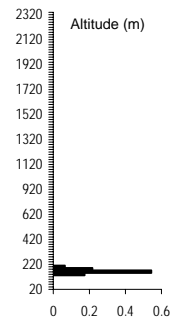
Pollinators (2 records): 50% bees or wasps, 50% flies.

Detailed Pollinators (1 record): Honey Bee.

Habitat:

Distance to Ocean (46 records): 100% inland - further than 2 km from coast.

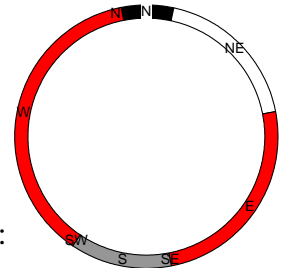
Altitude (46 records): 120 - 200 m; 140_{iq} - 160_{med} - 160_{uq}m.



Landform (45 records): 98% deep soil, 2% swamp.

Slope (45 records): 67% platform, 24% gentle incline, 7% valley bottom, 2% dunes.

Aspect (16 records): 38% East, 38% West, 13% North, 13% South.



Soil Type (45 records): 91% sandy, 9% loamy.

Soil Colour (45 records): 42% grey, 40% white, 11% brown, 4% yellow, 2% black.

Geology (38 records): 79% Tertiary sands, 11% sandstone, 8% conglomerate, 3% granite.

Vegetation (45 records): 56% shrubland, 42% plantations, 2% agricultural lands.

Conservation Status and Threat:

Red Data List Status: Critically Endangered

A2a, B1b(i,ii,iii,iv,v)c(iv), Occurrence (Fynbos): 47 km² with 1% conserved and 67% lost; Occupancy: 26 km² with 3% conserved and 65% lost. Fragmentation index: 55%.

Nature Reserves (46 records): 4% in nature reserves - unconserved.

Habitat destruction (45 records): 53% extensive natural habitat, 29% islands, 9% road verges, 4% patches, 2% naturally linear habitats, 2% naturally fragmented habitats.

Alien Invasive Species (45 records): 69% *Pinus*, 24% Fabaceae (chiefly alien *Acacia*), 4% annual alien grasses, 2% none.

Alien Density (45 records): 2% alien-free, 31% sparse, 58% abundant, 9% dense.

Cultivation & Utilization:

Picking (44 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

- Field guide says plants up to 1 m across - many of these plants are over 3 m across (PVR96011402); One 3 m by 2 m mat (SMR98052104); Some mats about 5 m in diameter (WIJ94121001).
- Plant mats acting as nursery plants for pine establishment! (ASP94110316); Dozens of 200 - 300 mm high pines weeded from some of the mats (WIJ94121001).
- Some plants dead - due to pine clearing operations? (AGR97072301); Lots dead - more than half plants gone – eliminated from 3/4 of area – looks like roadside application of herbicide (AGR97072303); Perhaps 20-40 plants on this site appear to be extinct due to clearing for quarry and aliens (NAH98030401).
- One plant dying back (LYM97081312); Found 1 dead plant; 3 moribund plants and 1 young plant (LYM98052102); There are perhaps 50 plants - 8 adult 1 m wide mats and the rest were young plants (less than 2 years old?) (NGFY0021201).
- Single plant noted within maintained pine plantation covering area of 1 m X 2 m (NAHY5042601); 2 plants Found Under Pine

Trees In Plantation At Edge Of Plot (LYM97081312); 1 plant almost hidden by pine needles - just little bits sticking through - however seems to be a healthy big mat (VCH98052104).

Confusing Species: None noted.

Variation and Taxonomy: Rourke (1976) dismissed Salisbury's name *humifusa* as the type could not be traced and "the description is so vague that it cannot be applied with certainty". However, taken in conjunction with the section Salisbury placed it in (petals beyond the anthers hairless), the description is unambiguous. It remains to find the herbarium specimen collected by Roxburgh to locate the type.

Distribution: In 1976 this species had not been seen since 1934 (Rourke 1976).

INCLUDEPICTURE

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

MERGEFORMAT \d

Diastella proteoides (L.) Druce 1753, 1914

Flats Silkypuff

Vlaktesterretjie

Other Common Names: Flats Silkystar, Flats Starlet, Heath-leaf *Diastella*, *Sterretjie*.

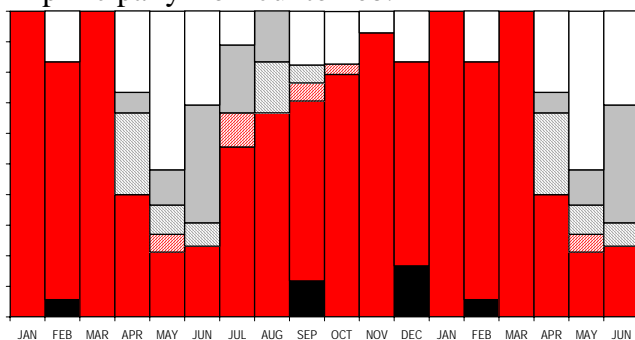
Other Scientific Names: *ericaefolia* Salisb. ex Knight 1809, *homomalla* Reichb. ex Meisn. 1856, *purpurea* (L.) R. Br. 1770.

197 Records

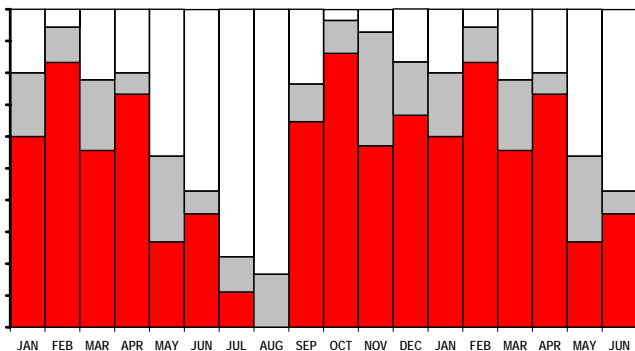
Population (192 records): 23% Common, 44% Frequent, 32% Rare, 1% Extinct.

Dispersion (164 records): 56% variable, 41% clumped, 2% widespread.

Flowering (193 records with: Jan 5, Feb 18, Mar 9, Apr 15, May 52, Jun 13, Jul 9, Aug 6, Sep 17, Oct 29, Nov 14, Dec 6): Buds from Jul; Flowering from all year round with a May to Jun dip; Peak Flowering from Dec; Over from Apr and Aug; Fruit from May to Aug; Nothing from Feb and Apr to Jun and Sep to Oct and Dec. Peak levels at 100% in Jan, Mar and Aug. Historically recorded as flowering erratically throughout the year, but principally from Jul to Feb.



Growth (194 records with: Jan 5, Feb 18, Mar 9, Apr 15, May 52, Jun 14, Jul 9, Aug 6, Sep 17, Oct 29, Nov 14, Dec 6): Much from Sep to Jun; Rare from Jan, Mar, May and Nov; None from Jan and Mar to Sep. Peak levels at 97% in Oct.



Seedlings (78 records): Absent in 97%; fewer seedlings than prefire adults in 1 case. Seedlings found in Dec.

Fire Survival (11 records): 82% survived by seedlings only, 18% eliminated from the area by fires.

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



Height (190 records): 25% 0-0.2 m tall, 75% 0.2-1 m tall.

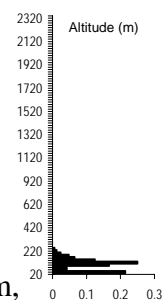
Pollinators (3 records): 67% bees or wasps, 33% beetles.

Detailed Pollinators (2 records): Solitary Bee, Pollen Wasp.

Habitat:

Distance to Ocean (167 records): 100% inland - further than 2 km from coast.

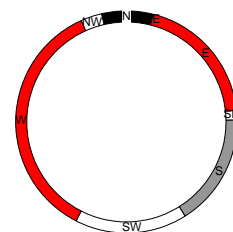
Altitude (167 records): 20 - 240 m; 40_{lq} - 100_{med} - 120_{uq}m.



Landform (167 records): 99% deep soil, 0.6% swamp.

Slope (164 records): 74% platform, 12% gentle incline, 10% valley bottom, 2% hill top, 2% dunes.

Aspect (67 records): 48% West, 22% South, 20% East, 10% North.



Soil Type (166 records): 98% sandy, 1% loamy.

Soil Colour (165 records): 37% grey, 33% white, 16% brown, 8% yellow, 5% orange.

Geology (162 records): 81% Tertiary sands, 15% sandstone, 2% granite, 1% shale.

Vegetation (167 records): 91% shrubland, 5% plantations, 3% suburban.

Conservation Status and Threat:

Red Data List Status: Critically Endangered A2c+4c.

Occurrence (Fynbos): 778 km² with 3% conserved and 67% lost; **Occupancy:** 172 km² with 9% conserved and 55% lost. **Fragmentation index:** 11%.

Nature Reserves (167 records): 28% in nature reserves.

Habitat destruction (165 records): 52% extensive natural habitat, 36% islands, 4% road verges, 3% naturally linear habitats, 2% patches, 2% corridors.

Alien Invasive Species (163 records): 87% Fabaceae (chiefly alien *Acacia*), 12% *Pinus*, 1% none.

Alien Density (163 records): 1% alien-free, 36% sparse, 33% abundant, 23% dense, 7% impenetrable.

Cultivation & Utilization:

Picking (156 records): 100% no sign of picking.

Cultivation Status: Plantings - 1 record.

Atlassers Notes:

- Lots of dead senescent plants in patches of very old veld (>15 years) (AGRY4102705);
- This Kraaifor site destroyed by housing about 1996 (AGR96030707);
- These Tokai plants have longer leaves and are more prostrate than other forms from the north (ANR97042801);
- About a year ago somebody chopped down the pine tree growing out of the mat of Silky-puff presumably wishing to do it a favour - today the plant is nearly dead. Did this result in too much sun to the plant or did the hot summer of 2000/1 affect it? (NGFY1072101);
- Plants very happy and the mats have nearly doubled in size since this site in the Tokai Plantation was first discovered in July 1994.

The area has been fenced but two plants remain outside the fence (NGF97112301); Counted 58 plants all within the small enclosure and therefore very localized (NGFY0120301);

Confusing Species: No confusion noted. Records of identification queries = 2.

Variation and Taxonomy: Atlassers have noted that the southern plants from Tokai and Meadowridge are more prostrate (not sprawling) and have longer leaves than the other populations.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes Salisb. 1807 and *Orothamnus zeyheri* Pappe ex Hook.f 1848

Pagodas and Marsh Rose

Anything specific to go in here?

Mimetes arboreus Rourke 1982
Kogelberg Pagoda
Kogelbergvaalstompie

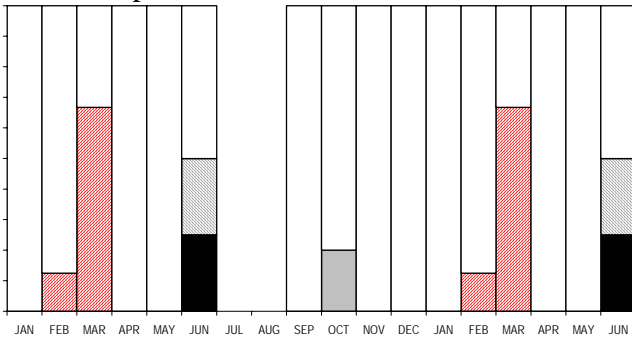
Other Common Names: Kogelberg-silver
 Bottlebrush, *Boomsilwerstompie*.
Other Scientific Names: *None*.

43 Records

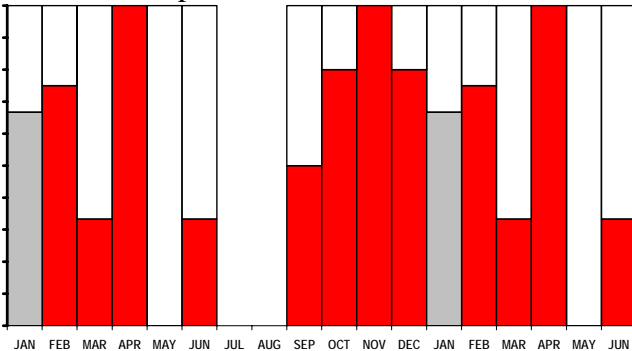
Population (43 records): 2% Common, 33% Frequent, 63% Rare, 2% Extinct.

Dispersion (36 records): 50% clumped, 47% variable, 3% widespread.

Flowering (41 records with: Jan 3, Feb 8, Mar 3, Apr 1, May 1, Jun 4, Jul 0, Aug 0, Sep 4, Oct 10, Nov 2, Dec 5): Buds from Mar; Flowering not recorded; Peak Flowering from Jun; Over from Jun; Fruit from Oct; Nothing from all year. Peak levels at 67% in Mar. Historically recorded as flowering from Apr to Jun and fruit from Dec to Jan.



Growth (40 records with: Jan 3, Feb 8, Mar 3, Apr 1, May 1, Jun 3, Jul 0, Aug 0, Sep 4, Oct 10, Nov 2, Dec 5): Much from Feb to Apr and Jun to Dec; Rare from Jan; None from Dec to Mar and May to Oct. Peak levels at 100% in Apr and Nov.



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

Fire Survival : No data.

Age to first flowering: First flowers recorded at 11 years, 50% estimated at 14 years, and 100% recorded at 11 years, but consistently only at 20 years.



Height (42 records): 5% 0-0.2 m tall, 81% 0.2-1 m tall, 12% 1-2 m tall, 2% 2-5 m tall.

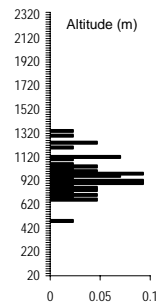
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (43 records): 98% inland - further than 2 km from coast.

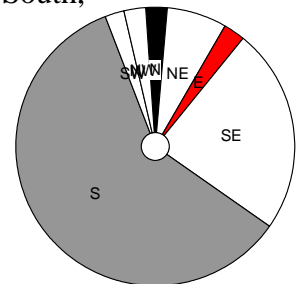
Altitude (43 records): 460 - 1240 m; 740 *lq* - 820 *med* - 880 *uq*m.



Landform (43 records): 56% deep soil, 44% shallow soil.

Slope (43 records): 58% steep incline, 19% cliff, 16% gentle incline, 5% hill top, 2% platform.

Aspect (42 records): 77% South, 13% East, 6% North, 4% West.



Soil Type (43 records):

- 58% peaty,
- 35% sandy,
- 2% loamy,
- 2% gravelly,
- 2% rocky.

Soil Colour (43 records): 42% black, 37% grey, 19% brown, 2% white.

Geology (43 records): 100% sandstone.

Vegetation (43 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Endangered

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

Occurrence (Fynbos): 94 km² with 94% conserved and 0% lost; **Occupancy:** 45 km² with 84% conserved and 0% lost. **Fragmentation index:** 45%.

Nature Reserves (43 records): 95% in nature reserves - well conserved.

Habitat destruction (43 records):

100% extensive natural habitat.

Alien Invasive Species (42 records): 79% none, 21% *Pinus*.

Alien Density (42 records): 79% alien-free, 21% sparse.

Cultivation & Utilization:

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

Cultivation Status: No noted cultivation.

Atlasers Notes:

Still to flower post fire 1991 – 9 years old!
(MAJY0010202); About 800 plants ranging
from 200 mm at drier localities to 500 mm
where more moist (MAJ99102802);
Recruitment from a single parent: 25 plants
(MAJ99112803); Occurring only as single
plants scattered over about 250 m of
southern ridge top (MAJ96030502);

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

Variation and Taxonomy: No variation
recorded.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes argenteus Salisb. ex Kn. 1909

Silver Pagoda

Vaalstompie

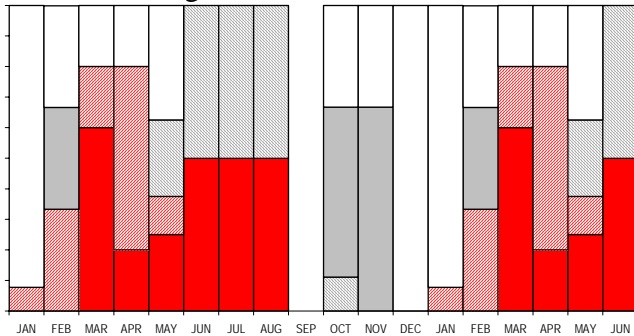
Other Common Names: Silver Mimetes, Silver-leaf Bottlebrush, Silvery Mimetes, *Luisbos*, *Silwerblaarstompie*, *Silwerstompie*.
Other Scientific Names: *massonii* RBr 1810, *nitens* (Thunb.) Roen & Schult 1813, 1818.

63 Records

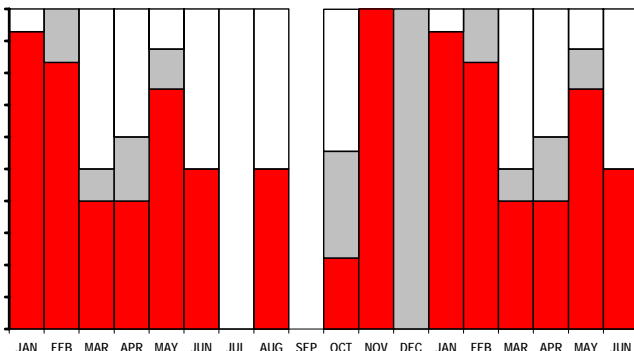
Population (63 records): 17% Common, 46% Frequent, 37% Rare.

Dispersion (54 records): 70% clumped, 26% variable, 2% evenly distributed, 2% widespread.

Flowering (62 records with: Jan 13, Feb 6, Mar 10, Apr 5, May 8, Jun 2, Jul 2, Aug 2, Sep 0, Oct 9, Nov 3, Dec 2): Buds from Feb to Apr; Flowering from Mar to Aug; Peak Flowering not recorded; Over from May to Aug; Fruit from Feb and Oct to Nov; Nothing from Oct to May. Peak levels at 100% in Jun to Aug. Historically recorded as flowering from Mar to Jun.



Growth (62 records with: Jan 14, Feb 6, Mar 10, Apr 5, May 8, Jun 2, Jul 1, Aug 2, Sep 0, Oct 9, Nov 3, Dec 2): Much from Jan to Jun and Aug and Oct to Nov; Rare from Apr, Oct and Dec; None from Mar to Apr and Jun to Oct. Peak levels at 100% in Nov to Dec and Jan.



Seedlings (33 records): Absent in 88%; fewer seedlings than prefire adults in 1 case, and more in 1 case. Seedlings found in Jun and Nov.

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

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



Height (63 records): 3% 0-0.2 m tall, 62% 0.2-1 m tall, 33% 1-2 m tall, 2% 2-5 m tall.

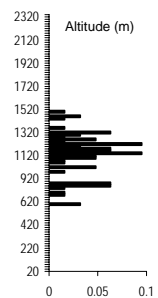
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (63 records): 100% inland - further than 2 km from coast.

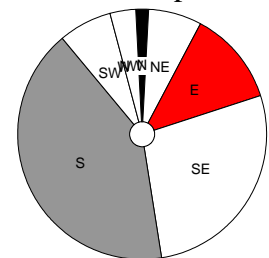
Altitude (63 records): 580 - 1400 m; 900_{lq} - 1040_{med} - 1080_{uq}m.



Landform (63 records): 62% deep soil, 32% shallow soil, 3% swamp, 3% rocky outcrops.

Slope (63 records): 71% steep incline, 24% gentle incline, 5% hill top.

Aspect (58 records): 62% South, 27% East, 7% North, 4% West.



Soil Type (62 records): 55% sandy, 19% loamy, 18% peaty, 5% rocky, 3% gravelly.

Soil Colour (62 records): 52% grey, 34% black, 11% brown, 3% white.

Geology (57 records): 96% sandstone, 4% shale.

Vegetation (63 records): 98% shrubland, 2% grassland.

Conservation Status and Threat:

Red Data List Status: Near Threatened B1a(i),b(iii,v)c(iv).

Occurrence (Fynbos): 928 km² with 47% conserved and 19% lost; **Occupancy:** 83 km² with 76% conserved and 2% lost. **Fragmentation index:** 7%.

Nature Reserves (63 records): 89% in nature reserves - well conserved.

Habitat destruction (62 records): 95% extensive natural habitat, 2% islands, 2% naturally linear habitats, 2% naturally fragmented habitats.

Alien Invasive Species (62 records): 79% *Pinus*, 18% none, 2% *Hakea*, 2% Fabaceae (chiefly alien *Acacia*).

Alien Density (62 records): 18% alien-free, 69% sparse, 5% abundant, 8% dense.

Cultivation & Utilization:

Picking (48 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlassers Notes:

At least 10% of plants dead or nearly dead (AGRY0072609); There has been an apparent increase in the population since 2001, but this is probably due to the older plants being more visible. Total now about 200 plants (NAHY5031301); Isolated plant protected from fire in seep (SHR93102302); Plants are only by the streams (HCE96052401);

Confusing Species: None. Related species are geographically separated.

Records of identification queries = 3.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes hottentoticus Phill. & Hutch. 1923

Matchstick Pagoda

Vuurhoutjiestompie

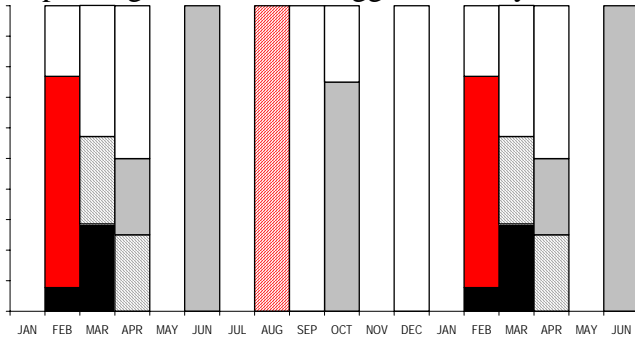
Other Common Names: *Vuurhoutjievlabos*.
Other Scientific Names: *None*.

41 Records

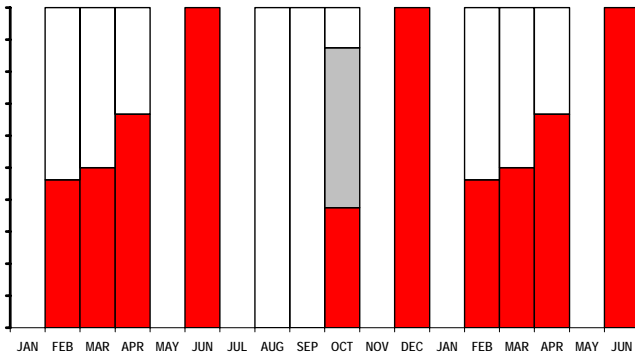
Population (41 records): 22% Common, 44% Frequent, 34% Rare.

Dispersion (34 records): 53% clumped, 41% variable, 6% widespread.

Flowering (39 records with: Jan 0, Feb 13, Mar 7, Apr 4, May 0, Jun 1, Jul 0, Aug 1, Sep 2, Oct 8, Nov 0, Dec 3): Buds from Aug; Flowering from Feb; Peak Flowering from Mar; Over from Mar to Apr; Fruit from Apr to Jun and Oct; Nothing from Sep to Apr. Peak levels at 77% in Feb. Historically recorded as flowering from Jan to Mar, peaking in Feb with stragglers to May.



Growth (40 records with: Jan 0, Feb 13, Mar 8, Apr 3, May 0, Jun 1, Jul 0, Aug 1, Sep 2, Oct 8, Nov 0, Dec 4): Much from Oct to Jun; Rare from Oct; None from Feb to Apr and Aug to Sep. Peak levels at 100 in Jun and Dec.



Seedlings (29 records): All without any seedlings present.

Fire Survival : No data.

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



Height (40 records): 13% 0-0.2 m tall, 45% 0.2-1 m tall, 43% 1-2 m tall.

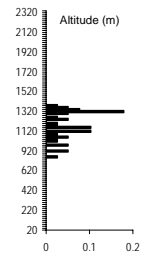
Pollinators (4 records): 75% birds, 25% beetles.

Detailed Pollinators (3 records): Cape Sugarbird (2), Southern Double-collared Sunbird.

Habitat:

Distance to Ocean (39 records): 100% inland - further than 2 km from coast.

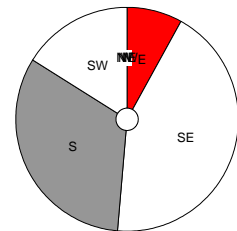
Altitude (39 records): 740 - 1280 m; 960 *lq* - 1060 *med* - 1200 *uq*m.



Landform (39 records): 72% deep soil, 28% shallow soil.

Slope (39 records): 67% steep incline, 26% gentle incline, 5% hill top, 3% cliff.

Aspect (37 records): 66% South, 23% East, 11% West.



Soil Type (39 records): 79% peaty, 13% sandy, 5% loamy, 3% rocky.

Soil Colour (39 records): 51% black, 33% grey, 15% brown.

Geology (39 records): 100% sandstone.

Vegetation (39 records): 100% shrubland.

Conservation Status and Threat:

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

Occurrence (Fynbos): 17 km² with 82% conserved and 0% lost; **Occupancy:** 20 km² with 71% conserved and 0% lost. **Fragmentation index:** about 1%.

Nature Reserves (39 records): 100% in nature reserves - well conserved.

Habitat destruction (39 records): 97% extensive natural habitat, 3% naturally linear habitats.

Alien Invasive Species (39 records): 79% none, 21% *Pinus*.

Alien Density (39 records): 79% alien-free, 21% sparse.

Cultivation & Utilization:

Picking (33 records): 100% no sign of picking. **Cultivation Status:** No noted cultivation.

Atlasers Notes:

Plants very small for 4 years (MAJ93031309);
Plants relatively small for age of veld at
higher altitudes (MAJ93031312);
A significant number of the plants still had
mature seed from previous flowering
occasion despite being in early bud
(MAJ98081601);
Area was only 5 yrs old when burned in '95,
thus seedlings are from previous soil store as
the plants would not yet have set seed
(NAH98020702);

Confusing Species: Being fairly late maturing,
identification of young plants using only

immature leaves resulted in some confusion
with *M. arboreus*.
Records of identification queries = 5.
Records of corrected identification queries = 3.

Variation and Taxonomy: Add.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes saxatilis Phill. 1911

Limestone Pagoda

Bredasdorpstompie

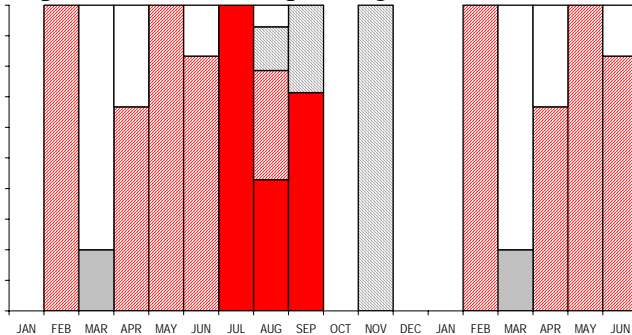
Other Common Names: *Geelstompie*, *Rooistompie*, *Stompie*.
Other Scientific Names: *None*.

58 Records

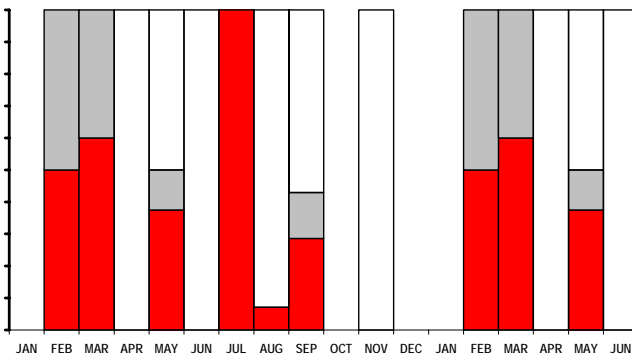
Population (55 records): 42% Common, 53% Frequent, 5% Rare.

Dispersion (53 records): 68% variable, 30% clumped, 2% evenly distributed.

Flowering (53 records with: Jan 0, Feb 3, Mar 5, Apr 6, May 8, Jun 6, Jul 1, Aug 14, Sep 7, Oct 0, Nov 3, Dec 0): Buds from Feb and Apr to Jun and Aug; Flowering from Jul to Sep; Peak Flowering not recorded; Over from Sep to Nov; Fruit from Mar; Nothing from Mar to Apr. Peak levels at 100% in Sep to Feb and May. Historically recorded as flowering from Jul to Dec, with an Aug peak, but erratic depending on rainfall.



Growth (52 records with: Jan 0, Feb 2, Mar 5, Apr 6, May 8, Jun 6, Jul 1, Aug 14, Sep 7, Oct 0, Nov 3, Dec 0): Much from Feb to May and Jul and Sep; Rare from Feb to Mar; None from Apr to Nov. Peak levels at 100% in Feb to Mar.



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

Fire Survival: No data.

Age to first flowering: First flowers recorded at 4 years, 50% estimated at 6-8 years, and 100% estimated at 13 years.



Height (53 records): 40% 0.2-1 m tall, 60% 1-2 m tall.

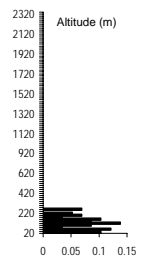
Pollinators (2 records): 100% birds.

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

Habitat:

Distance to Ocean (58 records): 52% inland - further than 2 km from coast.

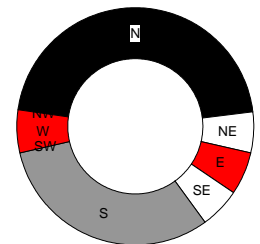
Altitude (58 records): 20 - 260 m; 40 lq - 100 med - 120 uq m.



Landform (54 records): 67% shallow soil, 31% deep soil, 2% rocky outcrops.

Slope (54 records): 46% gentle incline, 30% hill top, 15% steep incline, 7% platform, 2% cliff.

Aspect (35 records): 47% North, 34% South, 13% East, 6% West.



Soil Type (54 records): 69% sandy, 15% loamy, 11% rocky, 2% clayey, 2% peaty, 2% gravelly.

Soil Colour (54 records): 48% grey, 30% brown, 15% black, 7% white.

Geology (58 records): 97% limestone, 2% sandstone, 2% Tertiary sands.

Vegetation (58 records): 97% shrubland, 3% suburban.

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): 215 km² with 22% conserved and 34% lost; Occupancy: 62 km² with 25% conserved and 14% lost. Fragmentation index: 21%.

Nature Reserves (58 records): 29% in nature reserves.

Habitat destruction (54 records): 72% extensive natural habitat, 15% islands, 13% naturally fragmented habitats.

Alien Invasive Species (54 records): 54% Fabaceae (chiefly alien *Acacia*), 46% none.

Alien Density (54 records): 46% alien-free, 26% sparse, 24% abundant, 4% dense.

Cultivation & Utilization:

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

Atlassers Notes:
About 20% of plants senescent
(NAH97062001);

Confusing Species: None noted.

Variation and Taxonomy: No variation noted.

Distribution: Add.
INCLUDEPICTURE
"C:\\temp\\atlas\\MISAXA_m.jpg" *
MERGEFORMAT \d

Mimetes splendidus Salisb. ex Kn. 1809
Splendid Pagoda
Pragstompie

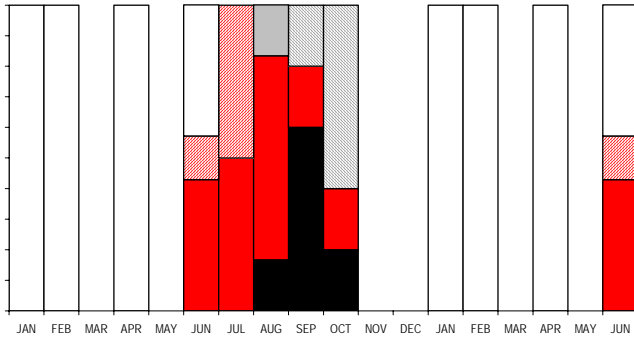
Other Common Names: Splendid Mimetes.
Other Scientific Names: *hibbertia* RBr 1809,
integrifolia Hutch. 1912.

34 Records

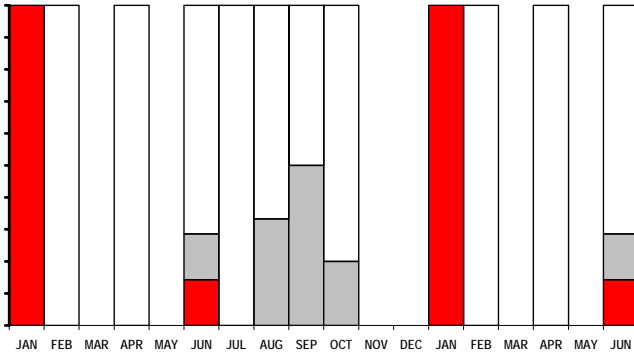
Population (34 records): 29% Frequent,
 65% Rare, 6% Extinct.

Dispersion (26 records): 92% clumped,
 8% evenly distributed.

Flowering (30 records with: Jan 3, Feb 1, Mar 0, Apr 1, May 0, Jun 7, Jul 2, Aug 6, Sep 5, Oct 5, Nov 0, Dec 0): Buds from Jul; Flowering from Jun to Oct; Peak Flowering from Sep to Oct; Over from Sep to Oct; Fruit from Aug; Nothing from Jan to Jun. Peak levels at 100% in Jul and Sep to Oct. Historically recorded as flowering from winter with a peak in May to Jul, and fruit from Jan to Feb.



Growth (29 records with: Jan 3, Feb 1, Mar 0, Apr 1, May 0, Jun 7, Jul 2, Aug 6, Sep 4, Oct 5, Nov 0, Dec 0): Much from Jan; Rare from Aug to Oct; None from Feb to Oct. Peak levels at 100% in Jan.



Seedlings (21 records): Absent in 71%: fewer seedlings than prefire adults in 1 case, and more in 2 cases. Seedlings found in Apr, Jun and Nov.

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

Age to first flowering: First flowers recorded at 4 years, 50% estimated at 7 years, and 100% recorded at 8 years.



Height (32 records): 6% 0-0.2 m tall, 41% 0.2-1 m tall, 38% 1-2 m tall, 16% 2-5 m tall.

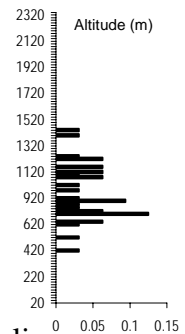
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (32 records): 100% inland - further than 2 km from coast.

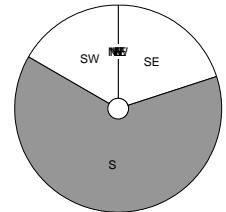
Altitude (32 records): 400 - 1340 m; 680 *lq* - 760 *med* - 920 *uq*m.



Landform (32 records): 72% deep soil, 16% shallow soil, 9% rocky outcrops, 3% riverine.

Slope (32 records): 94% steep incline, 6% gentle incline.

Aspect (30 records): 87% South, 8% West, 5% East.



Soil Type (32 records): 47% peaty, 38% loamy, 9% sandy, 3% clayey, 3% gravelly.

Soil Colour (32 records): 47% black, 31% brown, 16% grey, 6% orange.

Geology (32 records): 94% sandstone, 6% shale.

Vegetation (32 records): 94% shrubland, 3% grassland, 3% thicket.

Conservation Status and Threat:

Red Data List Status: Endangered

B1a(i)b(i,ii,iii,iv,v)c(iv)
 +2a(i)b(i,ii,iii,iv,v)c(iv), C2a(i)b.

Occurrence (Fynbos): 2 255 km² with 23% conserved and 21% lost; Occupancy: 51 km² with 55% conserved and 5% lost. Fragmentation index: 2%.

Nature Reserves (32 records): 72% in nature reserves - well conserved.

Habitat destruction (31 records): 97% extensive natural habitat, 3% corridors.

Alien Invasive Species (29 records): 66% none, 34% *Pinus*.

Alien Density (29 records): 66% alien-free, 31% sparse, 3% abundant.

Cultivation & Utilization:

Picking (25 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlasers Notes:
Monitoring:

- April '94 fire: Our only two plants died but below (mainly on southern side of parents) are 30 + 11 seedlings respectively (AWA94111701); Jan '95: 45 plants about 160 mm tall. One year after '94 fire there were about 35 seedlings. Two years after there were about 25.5 (1/2 broken off) plants about 440 mm tall, with 9 dead (AWA96062901); 3.8 yrs after fire there were 13 plants about 780 mm tall (AWA98012901); More plants have died, but not as many as Jan Vlok's blikbrein predicted: the plants are now developing flowerheads: 11 plants about 1.08 m tall. (AWA99020601).
- Jan Vlok recorded 2 plants in 1982 and 6 plants in 1983. We could not find any! We discovered a new very healthy plant lower down not seen last year (AWA99012101).

Notes on small populations:

Only 2 plants occur – one has about 4 dead branches (HRK94091701); Only 3 plants - all healthy (HRK94091702); 3 living (healthy) plants and 1 dead (HRK98102104); 3 dead

plants seen (OUTY0062401); Only 1 plant (destroyed by fire on 18 Apr 1991) and 50 seedlings (SJJ92042302); At least 2 or 3 plants about 1 m tall seen below the path until 2 years ago, but not this time - no fire within the last 2 years (WIJ93102703); 2 plants growing together in clump above path (AGRY0062913);

Confusing Species: Occasionally misidentified by atlasers (and herbarium curators) as *M. fimbriifolius*.

Records of identification queries = 4.

Records of corrected identification queries = 1.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes stokoei Phill. & Hutch. 1922

Mace Pagoda

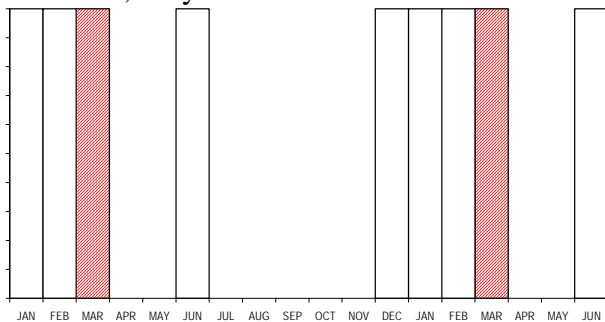
Other Common Names: Golden Pagoda, Stokoe's Pagoda, *Gouestompie*.
Other Scientific Names: *None*.

7 Records

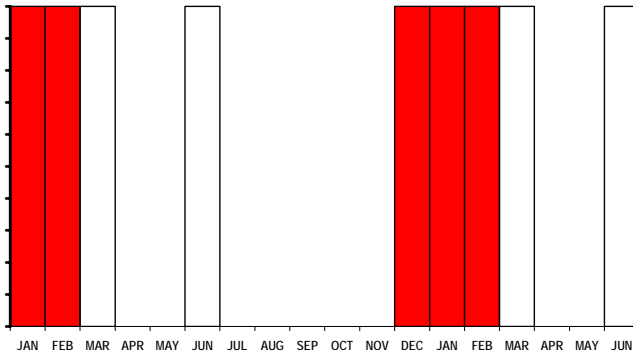
Population (7 records): 71% Frequent, 29% Extinct.

Dispersion (5 records): 100% clumped.

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



Growth (5 records with: Jan 1, Feb 1, Mar 1, Apr 0, May 0, Jun 1, Jul 0, Aug 0, Sep 0, Oct 0, Nov 0, Dec 1): Much from Dec to Feb; Rare not recorded; None from Mar and Jun. Peak levels at 100% in Mar.



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

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

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



Height (5 records): 20% 0-0.2 m tall, 40% 0.2-1 m tall, 40% 1-2 m tall.

Pollinators (1 record): 100% birds.

Detailed Pollinators (2 records): Malachite Sunbird, Cape Sugarbird.

Habitat:

Distance to Ocean (5 records): 100% inland - further than 2 km from coast.

Altitude (5 records): 560 - 580 m; 560_{lq} - 580_{med} - 580_{uq} m.

Landform (5 records): 80% deep soil, 20% swamp.

Slope (5 records): 100% gentle incline.

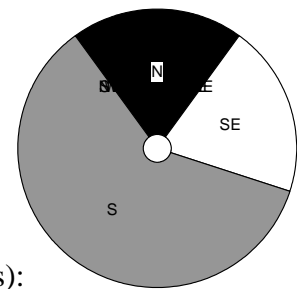
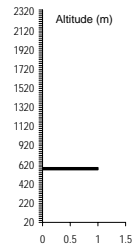
Aspect (5 records): 70% South, 20% North, 10% East.

Soil Type (5 records): 60% sandy, 40% peaty.

Soil Colour (5 records): 60% black, 40% grey.

Geology (5 records): 100% sandstone.

Vegetation (5 records): 100% shrubland.



Conservation Status and Threat:

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

Occurrence (Fynbos): 1 km² with 100% conserved and 0% lost; **Occupancy:** 3 km² with 100% conserved and 0% lost. Fragmentation index invalid.

Nature Reserves (5 records): 100% in nature reserves - well conserved.

Habitat destruction (5 records): 100% extensive natural habitat.

Alien Invasive Species (5 records): 60% none, 40% *Pinus*.

Alien Density (5 records): 60% alien-free, 20% sparse, 20% abundant.

Cultivation & Utilization:

Picking (4 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlassers Notes:

Marie Vogts' research site - site of last sighting - None visible now! (APE91082410); Some 16 plants found by Mark and Amida Johns two weeks ago - Site inspection and confirmation by John Rourke with Chris Burgers and Ruida Pool: to be kept secret till flowering to give plants a chance (AGRY1012601); All plants have survived since they were first counted as 150 mm tall plants (NGFY3060701); There are 24 Plants (AMMY3120601); A single additional plant found 100 m SE of others towards gulley (AGRY4031604);

Confusing Species: None.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes cucullatus (L.) R.Br. 1753, 1810

Common Pagoda

Rooistompie

Other Common Names: Lyre-bearing Mimetes, Red Bottlebrush, Red Pagoda, Red Stump, Redflamebush, *Dronkstompie*, *Rooitoppies*, *Soldaat*, *Stompie*, *Vuurstompies*.

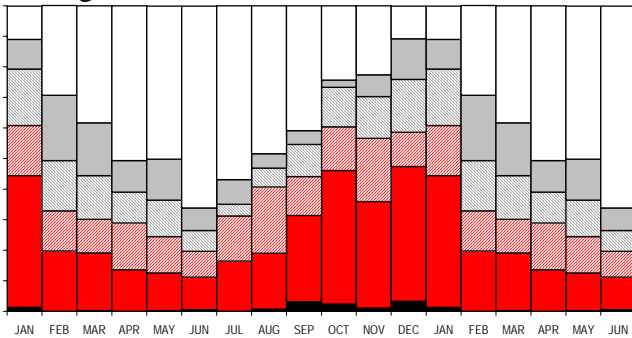
Other Scientific Names: *dregei* Gand & Schinz 1913, *laxifolia* Gand & Schinz 1913, *ludwigii* Steud ex Meisn 1856, *lyrigeria* Salisb. ex Knight 1809, *mixta* Gand 1901, *schinziana* Gand 1913.

6871 Records

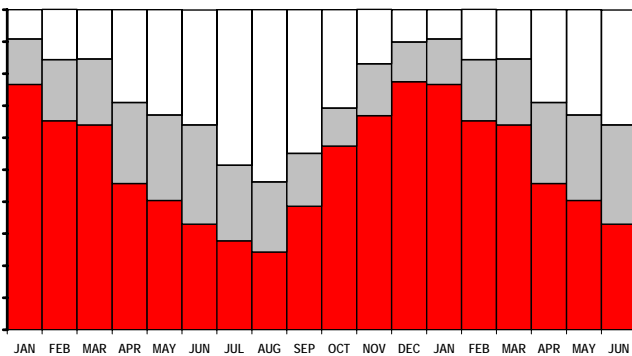
Population (6823 records): 17% Common, 69% Frequent, 14% Rare.

Dispersion (6261 records): 63% variable, 31% clumped, 5% widespread.

Flowering (6617 records with: Jan 677, Feb 538, Mar 652, Apr 536, May 403, Jun 310, Jul 371, Aug 535, Sep 773, Oct 797, Nov 633, Dec 392): Buds from Aug and Nov; Flowering from Sep to Jan; Peak Flowering from none; Over from Dec to Feb; Fruit from Feb to Mar; Nothing from Feb to Nov. Peak levels at 80% in Jan. Historically recorded as flowering from all year, but mainly from Aug to Mar.



Growth (6574 records with: Jan 669, Feb 530, Mar 655, Apr 541, May 401, Jun 306, Jul 360, Aug 526, Sep 769, Oct 791, Nov 631, Dec 395): Much from all year; Rare from Mar to Aug; None from Apr to Oct. Peak levels at 91% in Jan.

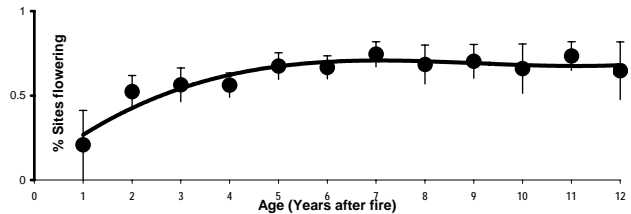


Seedlings (2693 records): Absent in 94%: fewer seedlings than prefire adults in 60 cases, and more in 24 cases. Seedlings found in Jan (10), Feb (6), Mar (5), Apr (2), May (5), Jun (7), Jul (10), Aug (10), Sep (12), Oct (4),

Nov (5) and Dec (8) – exceptional for a resprouter.

Fire Survival (479 records): 95% resprouted from underground boles, 2% survived by seedlings only, 2% resprouted from aerial trunks.

Age to first flowering: First flowers recorded at 1 year, 50% estimated at 2 years, and 100% recorded at 18 years.



Height (6682 records): 2% 0-0.2 m tall, 87% 0.2-1 m tall, 11% 1-2 m tall.

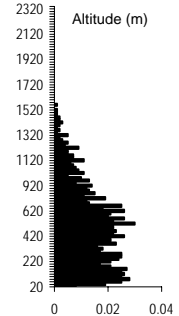
Pollinators (92 records): 85% birds, 7% bees or wasps, 3% beetles, 3% none observed, 2% butterflies or moths.

Detailed Pollinators (76 records): Cape Sugarbird (41), Orange-breasted Sunbird (26), Honey Bee (5), Malachite Sunbird (2), Table Mountain Beauty Butterfly, Great Protea Beetle.

Habitat:

Distance to Ocean (6725 records): 90% inland - further than 2 km from coast.

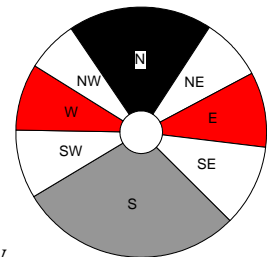
Altitude (6725 records): 20 - 1660 m; 220 *lq* - 440 *med* - 640 *uq*m.



Landform (6563 records): 77% deep soil, 18% shallow soil, 4% rocky outcrops, 1% swamp.

Slope (6564 records): 50% gentle incline, 34% steep incline, 7% platform, 7% hill top, 2% valley bottom.

Aspect (5838 records): 39% South, 26% North, 18% East, 16% West.



Soil Type (6538 records): 56% sandy, 26% loamy, 6% gravelly, 5% peaty, 4% rocky, 3% clayey.

Soil Colour (6520 records): 56% grey, 24% brown, 11% black, 5% white, 2% orange, 2% yellow.

Geology (6506 records): 87% sandstone, 8% shale, 2% silcrete or ferricrete, 2% Tertiary sandse.

Vegetation (6693 records): 98% shrubland, 1% plantations.

Conservation Status and Threat:

Red Data List Status: Least Concern.
 Occurrence (Fynbos): 29 872 km² with 23% conserved and 19% lost; Occupancy: 4 133 km² with 33% conserved and 17% lost. Fragmentation index: 6%.

Nature Reserves (6725 records): 46% in nature reserves.

Habitat destruction (6450 records): 94% extensive natural habitat, 3% islands, 2% naturally linear habitats.

Alien Invasive Species (6394 records): 42% none, 29% *Pinus*, 14% Fabaceae (chiefly alien *Acacia*), 12% *Hakea*, 2% Myrtaceae.

Alien Density (6378 records): 42% alien-free, 45% sparse, 9% abundant, 3% dense.

Cultivation & Utilization:

Picking (4555 records): 100% no sign of picking, 0.2% lightly picked, 0.0% severely picked.

Cultivation Status: Plantings - 2 records.

Witch's Broom Infestation: 1 records (0.01%).

Atlasers Notes:**Habit:**

- Sprawling over the rocks (JBB98041204); Sprawling growth form (GEH93050901); Low-growing and sprawling (WIJ98072508);
- The tallest I have come across - 3 m - can you beat it ! (VJK96080401);

Colour and growth habit:

- Deep cherry red colour: (OUT94040909, OUT95111805+9, OUT96110905+6)
- Normal red form (not yellow dwarf) (AGRY1020112);
- Yellow colour form: (AGR96021712, AGR96081009, AGRY1022813, AMMY1013104+5, AMMY1020119, LYM97081603, NGFY3012601, PVR92121903, SJJ92042304, VJK94060504)
- Dwarf yellow form: (AGR96020402, ASP94120309, DEB99021809, SJJ92062104)
- Insipid small, pale-yellow form: (AGRY3103121+4)
- Dwarf form: (AGRY0072008, AGRY0090815, DEB99010604, DEB99010622, DEB99022201, JIDY0072005+6)
- Silver-leaf form: (AGRY0010807+9)
- Looked different: grey-green hairy leaves (VJK93041802); Leaves copper-brown top to bottom (VJK93052303);
- Includes yellow variant (CJL96121501, CJL96121601); Half of population a much smaller yellow form (AMMY3103112);
- Not typical: stunted, branched and flowers more protruding (PVR93092404); A few plants appear unusual in having dark red hairy flattened topmost leaves vaguely like *M. hirtus* but these are resprouting (TLEY0010902);

Flowering:

- Not blooming whereas in full bloom a few km away (AWA94092702, AWA94102501, AWA96111206, VJK93022104, VJK93101001);

Resprouting:

- Resprouting plants flowered for 2nd time after fire – veld age is about 3 years (AWA95092701);
- Many with single stems (WIJY1010202);

Mortality:

- Stressed (AWA99092804, AWAY0100602, DFJ99092401, SHR98092602); Poor condition (CNR95041301, CVV95072508); Unhealthy looking (AKS92061207, SMRY0032903); Dying back (TLEY0031203, WIJY0102807), Dead plants (AGR96020308, SMRY0032903), Dead plants - looks like it has been very dry (VCH99040805); Very stressed and dying – driest winter in recorded history (WMPY0110402)

Grazing:

- One bush very heavily grazed - almost no leaves = a very sorry bush (AGRY0011336); Heavily grazed by sheep (SHRY0072902);

Misc:

- The absence of plants is noted: seen flowering here profusely first 1-2 seasons after '86 fire - first noted Dec '86 – 10 months after fire - last time seen in area burnt was Mar '90 in flower – and following Mar '91 fire seen in flower in Feb '92 and Dec '93 (TLE95011009);
- One bush with all heads with cetonid beetles - ca 20 mm long, brown spots - typically seen in protea heads. Was a yellow dwarf form –might these be pollinated by beetles? (ASP94120309);
- Seems to proliferate under the pine trees (WEL94043002, WEL94050108);

Confusing Species: Occasionally mistaken for *M. fimbriifolius*, but resprouting habit is diagnostic in genus. A form of *Leucospermum oleifolium* is indistinguishable from a distance of more than 1 m.

Records of identification queries = 50

Variation and Taxonomy: Dwarf forms with smaller heads and narrower leaves occur “randomly within” the range, and are reputedly encountered with intermediates (Rourke 1984). Colour variations include a yellow-green confluence form, but again are reputedly encountered with intermediates (Rourke 1984). Atlasers additionally noted sprawling forms and silver-leaf forms, but only one record of intermediate forms between the typical and yellow form was noted.

Distribution: Add.

INCLUDEPICTURE

"C:\temp\atlas\MICUCU_m.jpg" *
 MERGEFORMAT \d

Mimetes fimbriifolius Salisb. ex Kn. 1809

Tree Pagoda

Maanhaarstompie

Other Common Names: Fringe-leaf Mimetes, Fringed Bottlebrush.

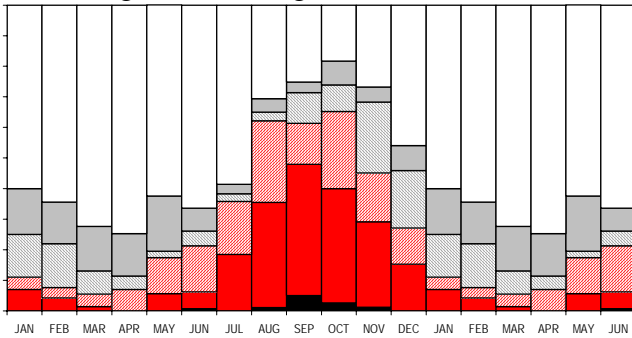
Other Scientific Names: *cucullatus* (Lam) 1792, *hartogii* RBr 1810.

1610 Records

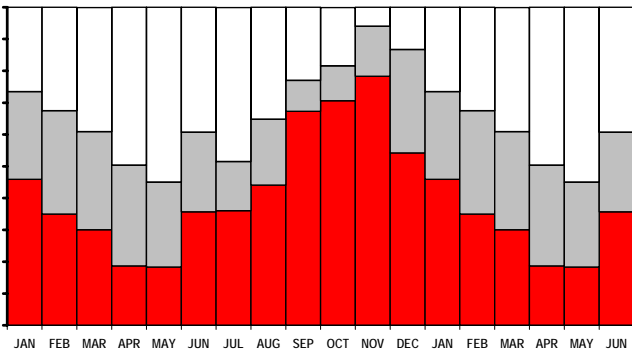
Population (1606 records): 10% Common, 64% Frequent, 26% Rare.

Dispersion (1433 records): 67% variable, 26% clumped, 6% widespread, 1% evenly distributed.

Flowering (1554 records with: Jan 100, Feb 118, Mar 145, Apr 158, May 144, Jun 146, Jul 162, Aug 180, Sep 119, Oct 115, Nov 82, Dec 85): Buds from Jul to Nov; Flowering from Aug to Nov; Peak Flowering from no month; Over from Nov; Fruit from no month; Nothing from Nov to Sep. Peak levels at 74% in Oct. Historically recorded as flowering from all year, but erratically with a Jul to Dec high and a Sep peak, and fruiting commencing in Jan.



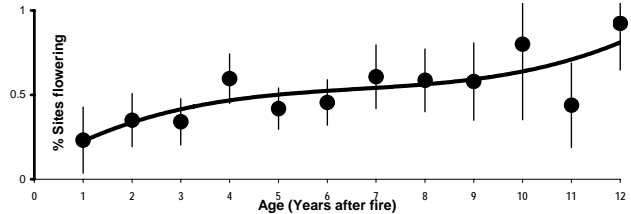
Growth (1518 records with: Jan 98, Feb 120, Mar 146, Apr 155, May 131, Jun 140, Jul 161, Aug 179, Sep 113, Oct 109, Nov 83, Dec 83): Much from Jun to Mar; Rare from Dec to Jun and Aug; None from Jan to Sep. Peak levels at 94% in Nov.



Seedlings (483 records): Absent in 85%: fewer seedlings than prefire adults in 30 cases, and more in 7 cases. Seedlings found in Jan, Feb, Mar (3), Apr, May (4), Jun, Jul (9), Aug (8), Sep (4), Oct (2) and Nov (3).

Fire Survival (257 records): 46% resprouted from aerial trunks, 45% escaped fires in fire-safe areas, 5% survived by seedlings only,

2% resprouted from underground boles, 1% eliminated from the area by fires.
Age to first flowering: First flowers recorded at 1 year, 50% estimated at 6-7 years, and 100% recorded at 17 years.



Height (1594 records): 10% 0.2-1 m tall, 63% 1-2 m tall, 26% 2-5 m tall.

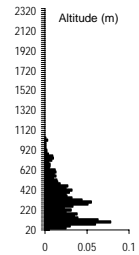
Pollinators (16 records): 94% birds, 6% bees or wasps.

Detailed Pollinators (17 records): Orange-breasted Sunbird (9), Cape Sugarbird (4), Malachite Sunbird (2), Red-winged Starling, Honey Bee.

Habitat:

Distance to Ocean (1568 records): 52% coastal - less than 2 km from coast.

Altitude (1572 records): 20 - 940 m; 100_{lq} - 240_{med} - 340_{uq}m.

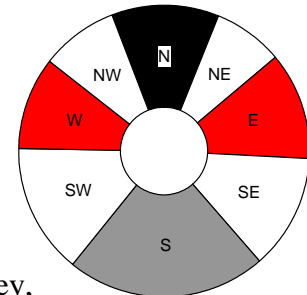


Landform (1567 records):

73% deep soil, 16% shallow soil, 10% rocky outcrops.

Slope (1555 records): 58% gentle incline, 18% steep incline, 14% platform, 9% hill top, 2% valley bottom.

Aspect (1270 records): 36% South, 22% West, 22% East, 20% North.



Soil Type (1565 records):

92% sandy, 5% loamy, 1% rocky, 1% gravelly.

Soil Colour (1564 records):

74% grey, 13% white, 9% brown, 3% black.

Geology (1540 records): 98% sandstone.

Vegetation (1568 records): 99% shrubland.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 326 km² with 62% conserved and 29% lost; Occupancy: 295 km² with 70% conserved and 15% lost. Fragmentation index: 67%.

Nature Reserves (1572 records): 89% in nature reserves - well conserved.

Habitat destruction (1543 records): 97% extensive natural habitat, 2% naturally linear habitats.

Alien Invasive Species (1494 records):
55% none, 27% Fabaceae (chiefly alien
Acacia), 16% *Pinus*, 1% *Hakea*.

Alien Density (1488 records): 55% alien-free,
38% sparse, 6% abundant.

Cultivation & Utilization:

Picking (895 records): 100% no sign of
picking.

Cultivation Status: No noted cultivation.

Atlasers Notes:

Demography:

- Appears to have had a population crash from common before fire to just 2 plants (AGRY1101402); About 2/3 plants dead in some localized patches (shallower soil than normal – no fire) (AGRY4041105); Some old plants have died – senescence? (PVR93053002).

Killed by fire:

- 50% of large plants (AKS92081204); About 30% (AKS92081205); Taller specimens not killed (AKS93081203); Sole survivor is half dead from scorching (AKS94072706); 80% survival (GYC95111601); About 50% escaped - lots of young plants (HCE96060105); 60-70% of adult plants killed (PVR92060604); About 25% killed (PVR92061602); Most adults killed (PVR93070704); Only largest trees have survived (PVR97081503);
- 3 height classes reflecting previous survival from fires BAW99112102;
- Seedlings only - no live large plants (CVV95070605+6);

- Big plants protected somewhat by rocks (CVVY0102202);
- All large plants destroyed in this area by last fire - many small plants spread through out area (FBH95091003);

Habitat:

- Clustered at top of slope (AKS92081201); Confined to ridges (TLE94070213, TLEY0062504); On koppies (TLE96101302, TLE97082408); On koppies and ridges (TLE97081004); On rocky outcrops (TLE93010213, TLE96101305, TLE97050303, TLE98062010); Especially on slightly higher ground (TLE96101901); Lower down on slopes (TLE91092204); More prevalent relative to Ls cono on higher ground (TLE94061109); Took over from Ls cono on shallow soil (TLE96030303); Growth Very Stunted Compared With Lower Slopes (PVR97081503);

Confusing Species: Misidentified with *M. cucullatus* and *Leucospermum conocarpodendron*, especially when not in flower.

Records of identification queries = 39

Records of corrected identification queries = 34.

Variation and Taxonomy: Add.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes chrysanthus Rourke 1988
Golden Pagoda
Gouestompie

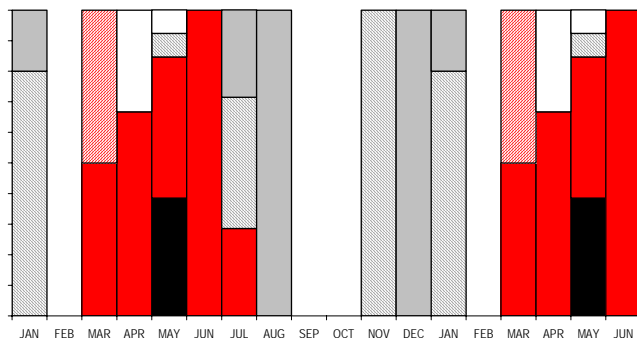
Other Common Names: None known.
Other Scientific Names: *None*.

44 Records

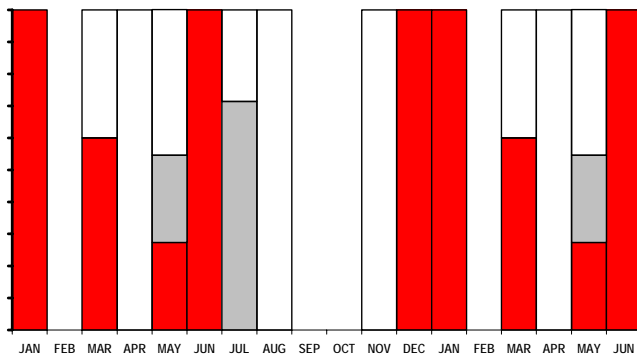
Population (44 records): 11% Common, 73% Frequent, 14% Rare, 2% Extinct.

Dispersion (41 records): 37% variable, 37% clumped, 24% evenly distributed, 2% widespread.

Flowering (43 records with: Jan 5, Feb 0, Mar 6, Apr 6, May 13, Jun 2, Jul 7, Aug 2, Sep 0, Oct 0, Nov 1, Dec 1): Buds from Mar; Flowering from Mar to Jul; Peak Flowering from May; Over from Jan, Jul and Nov; Fruit from Dec to Jan and Jul to Aug; Nothing from Apr. Peak levels at 100% in Mar and Jun. Historically recorded as flowering from Mar to Jul, peaking in Apr to May with fruit in Dec.



Growth (39 records with: Jan 5, Feb 0, Mar 5, Apr 5, May 11, Jun 2, Jul 7, Aug 2, Sep 0, Oct 0, Nov 1, Dec 1): Much from Dec to Mar and May to Jun; Rare from May and Jul; None from Mar to May and Jul to Nov. Peak levels at 100% in Dec to Jan and Jun.



Seedlings (24 records): Absent in 75%: more seedlings than prefire adults in 3 cases. Seedlings found in May and Jul (2).

Fire Survival (4 records): 50% eliminated from the area by fires, 50% survived by seedlings only.

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



Height (43 records): 7% 0-0.2 m tall, 23% 0.2-1 m tall, 60% 1-2 m tall, 9% 2-5 m tall.

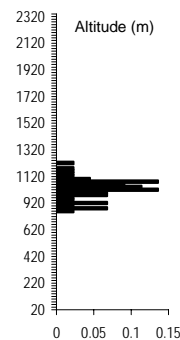
Pollinators (12 records): 50% bees or wasps, 33% beetles, 17% birds.

Detailed Pollinators (2 records): Carpenter Bee, Cape Sugarbird.

Habitat:

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

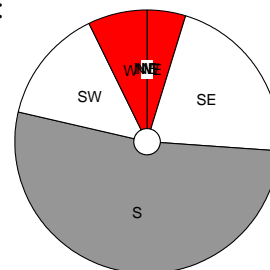
Altitude (44 records): 740 - 1120 m; 860 *lq* - 920 *med* - 940 *uq*m.



Landform (44 records): 59% shallow soil, 32% deep soil, 9% rocky outcrops.

Slope (44 records): 77% steep incline, 18% gentle incline, 5% hill top.

Aspect (42 records): 71% South, 14% East, 14% West.



Soil Type (44 records): 43% sandy, 39% loamy, 16% rocky, 2% gravelly.

Soil Colour (43 records): 53% grey, 30% brown, 14% black, 2% orange.

Geology (44 records): 100% sandstone.

Vegetation (44 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Vulnerable D2(ii).

Occurrence (Fynbos): 108 km² with 45% conserved and 2% lost; **Occupancy:** 37 km² with 49% conserved and 1% lost. **Fragmentation index:** 20%.

Nature Reserves (44 records): 43% in nature reserves.

Habitat destruction (43 records): 93% extensive natural habitat, 7% islands.

Alien Invasive Species (44 records): 57% none, 39% *Hakea*, 5% *Pinus*.

Alien Density (44 records): 57% alien-free, 43% sparse.

Cultivation & Utilization:

Picking (26 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Baboon damage to plants; both old and more recent damage (MAJ92050901);

Confusing Species: None.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes capitulatus R.Br. 1810 typical form
Conical Pagoda
Skraalstompie

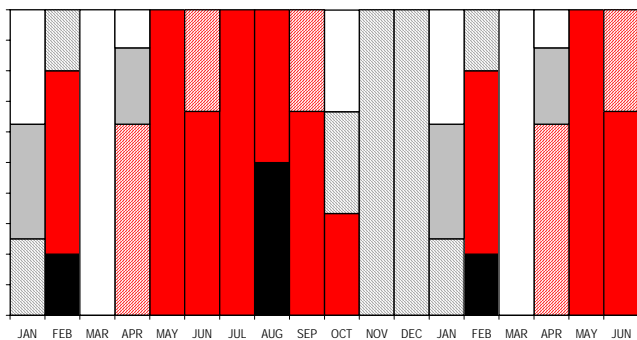
Other Common Names: None known.
Other Scientific Names: *None*.

40 Records

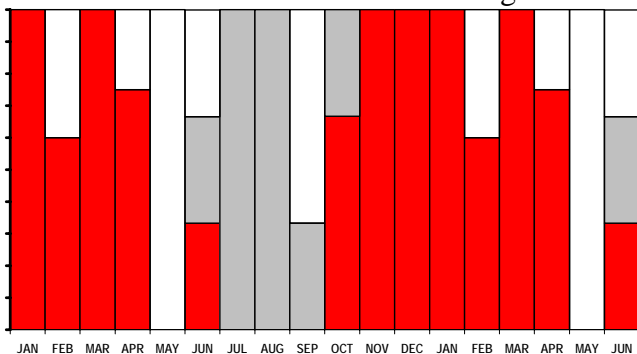
Population (39 records): 8% Common, 54% Frequent, 38% Rare.

Dispersion (36 records): 47% clumped, 44% variable, 6% evenly distributed, 3% widespread.

Flowering (40 records with: Jan 8, Feb 5, Mar 2, Apr 8, May 2, Jun 3, Jul 1, Aug 2, Sep 3, Oct 3, Nov 2, Dec 1): Buds from Apr, Jun and Sep; Flowering from Feb and May to Oct; Peak Flowering from Feb and Aug; Over from Oct to Feb; Fruit from Jan and Apr; Nothing from Jan, Mar and Oct. Peak levels at 100% in Feb and May to Sep and Nov to Dec. Historically recorded as flowering from Jun to Dec, peaking in Aug, with fruit from Nov to Feb.



Growth (40 records with: Jan 8, Feb 5, Mar 2, Apr 8, May 2, Jun 3, Jul 1, Aug 2, Sep 3, Oct 3, Nov 2, Dec 1): Much from Oct to Apr and Jun; Rare from Jun to Oct; None from Feb and Apr to Jun and Sep. Peak levels at 100% in Oct to Jan and Mar and Jul to Aug.



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

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

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



Height (37 records): 5% 0-0.2 m tall, 81% 0.2-1 m tall, 14% 1-2 m tall.

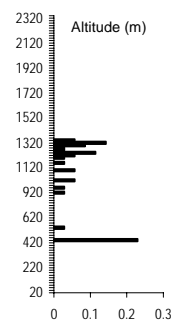
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

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

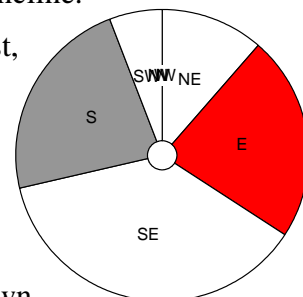
Altitude (34 records): 420 - 1240 m; 800 *lq* - 1120 *med* - 1160 *uq*m.



Landform (34 records): 68% deep soil, 21% swamp, 12% shallow soil.

Slope (34 records): 53% steep incline, 47% gentle incline.

Aspect (34 records): 49% South, 44% East, 4% North, 3% West.



Soil Type (34 records): 53% peaty, 47% sandy.

Soil Colour (34 records): 59% grey, 26% black, 15% brown.

Geology (34 records): 100% sandstone.

Vegetation (34 records): 100% shrubland.

Conservation Status and Threat:

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

Occurrence (Fynbos): 453 km² with 24% conserved and 45% lost; Occupancy: 23 km² with 54% conserved and 9% lost.
 Fragmentation index: 5%.

Nature Reserves (34 records): 94% in nature reserves - well conserved.

Habitat destruction (34 records): 94% extensive natural habitat, 6% islands.

Alien Invasive Species (33 records): 61% none, 39% *Pinus*.

Alien Density (33 records): 61% alien-free, 36% sparse, 3% dense.

Cultivation & Utilization:

Picking (34 records): 94% no sign of picking, 6% lightly picked.

Cultivation Status: Plantings - 1 record (3%).

Atlasers Notes:

Branches bare except for last 300 mm - few
branches - Some almost 2 m tall: moribund?
(MAJ92060801);
Excessive Vlei Rat activity as well as on
Witsenia And *Nebelia* (MAJ98062501);
Very odd locality in a low lying vlei
(MAJ97091401).

Confusing Species: None.
Records of identification queries = 3

Variation and Taxonomy: We have separated
the two forms of the species that atlasers

have discovered. This is the spreading leaf
form that forms low rounded bushes. Rourke
(1984) mentions the two growth forms, but
has the Paardeberg form as the mature
version of this form – this is not borne out by
field observations.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes capitulatus R.Br. 1810 Platberg form
Ice-cream Cone Pagoda

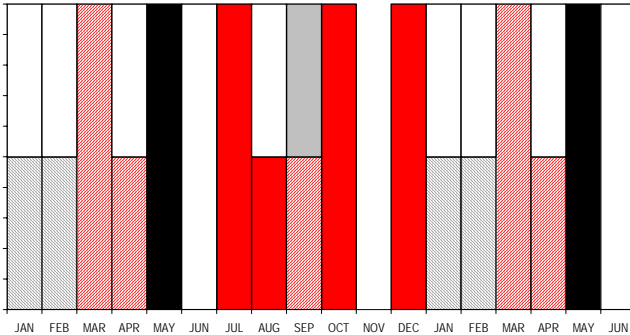
Other Common Names: None known.
Other Scientific Names: *None*.

19 Records

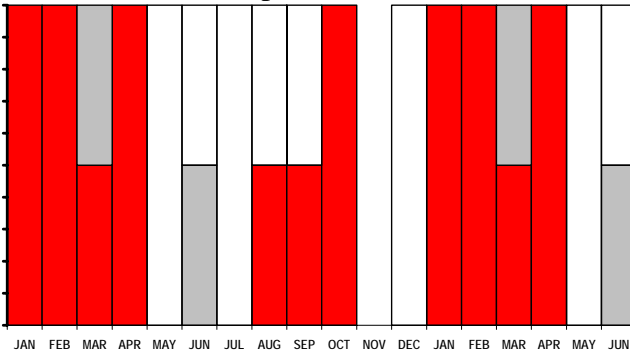
Population (19 records): 42% Frequent, 58% Rare.

Dispersion (18 records): 94% clumped, 6% variable.

Flowering (19 records with: Jan 2, Feb 2, Mar 2, Apr 2, May 1, Jun 2, Jul 2, Aug 2, Sep 2, Oct 1, Nov 0, Dec 1): Buds from Mar to Apr and Sep; Flowering from Jul to Aug and Oct to Dec; Peak Flowering from May; Over from Jan to Feb; Fruit from Sep; Nothing from Jan to Feb and Apr and Jun and Aug. Peak levels at 100% in Mar, May, Jul, Oct and Dec. Historically recorded as flowering from Jun to Dec, peaking in Aug, with fruit from Nov to Feb.



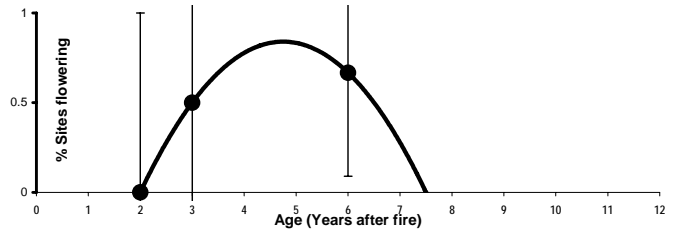
Growth (19 records with: Jan 2, Feb 2, Mar 2, Apr 2, May 1, Jun 2, Jul 2, Aug 2, Sep 2, Oct 1, Nov 0, Dec 1): Much from Jan to Apr and Aug to Oct; Rare from Mar and Jun; None from May to Sep and Dec. Peak levels at 100% in Jan to Apr and Oct.



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

Fire Survival (3 records): 67% survived by seedlings only, 33% eliminated from the area by fires.

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



Height (18 records): 6% 0-0.2 m tall, 61% 0.2-1 m tall, 33% 1-2 m tall.

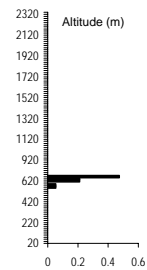
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (19 records): 100% inland - further than 2 km from coast.

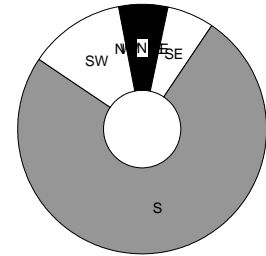
Altitude (19 records): 540 - 660 m; 600_{lq} - 620_{med} - 640_{uq} m.



Landform (19 records): 84% deep soil, 5% riverine, 5% swamp, 5% rocky outcrops.

Slope (19 records): 58% gentle incline, 21% hill top, 16% steep incline, 5% platform.

Aspect (16 records): 81% South, 9% West, 6% North, 3% East.



Soil Type (19 records):

42% peaty, 37% loamy, 16% sandy, 5% rocky.

Soil Colour (19 records): 37% black, 37% brown, 21% grey, 5% white.

Geology (19 records): 95% sandstone, 5% conglomerate.

Vegetation (19 records): 100% shrubland.

Conservation Status and Threat:

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

Occurrence (Fynbos): 5 km² with 100% conserved and 0% lost; Occupancy: 9 km² with 100% conserved and 0% lost.

Fragmentation index: invalid.

Nature Reserves (19 records): 100% in nature reserves - well conserved.

Habitat destruction (19 records): 100% extensive natural habitat.

Alien Invasive Species (19 records): 95% none, 5% *Pinus*.

Alien Density (19 records): 95% alien-free, 5% sparse.

Cultivation & Utilization:

Picking (12 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlasers Notes:

None.

Confusing Species: None.

Records of identification queries = 2.

Variation and Taxonomy: This form produces a rounded low bush of vegetative leaves, from which arise long, erect, sparsely-branched reproductive stems. Flowersheads are seldom produced except on

these branches. The leaves tightly clasp the stem, especially on the reproductive stems.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes hirtus (L.) Salisb. ex Kn. 1760, 1809

Marsh Pagoda

Vleistompie

Other Common Names: Hairy Mimetes, Pineapplebush, Red-and-yellow Bottlebrush, Tall Pagoda, *Kreupelboom*, *Pynappelstompie*, *Stompie*.

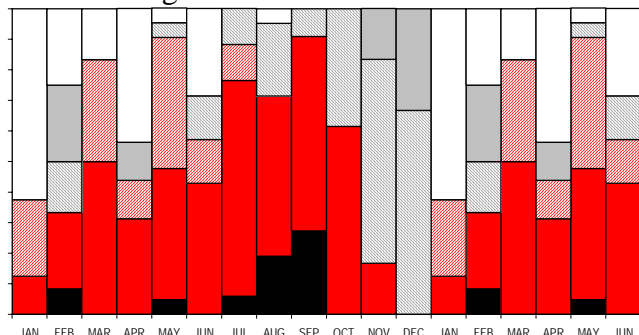
Other Scientific Names: *None*.

149 Records

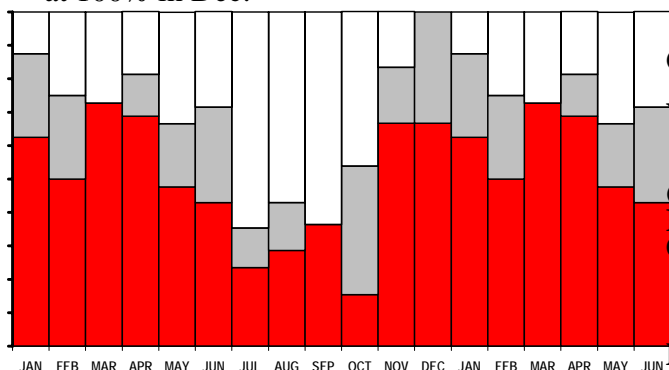
Population (144 records): 21% Common, 63% Frequent, 15% Rare.

Dispersion (138 records): 67% clumped, 26% variable, 5% evenly distributed, 1% widespread.

Flowering (147 records with: Jan 8, Feb 12, Mar 12, Apr 16, May 21, Jun 7, Jul 17, Aug 21, Sep 11, Oct 13, Nov 6, Dec 3): Buds from Jan, Mar and May; Flowering from Feb to Oct; Peak Flowering from Aug to Sep; Over from Aug and Oct to Dec; Fruit from Feb and Dec; Nothing from Jan to Feb and Apr and Jun. Peak levels at 100% in July and Sep to Oct. Historically recorded as flowering from May to Nov with a peak in Jul to Aug.



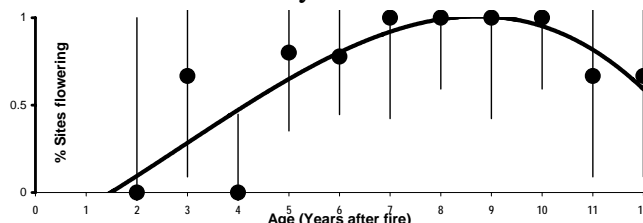
Growth (146 records with: Jan 8, Feb 12, Mar 11, Apr 16, May 21, Jun 7, Jul 17, Aug 21, Sep 11, Oct 13, Nov 6, Dec 3): Much from Nov to Sep; Rare from Dec to Feb and Jun and Oct; None from Feb to Oct. Peak levels at 100% in Dec.



Seedlings (74 records): Absent in 76%: fewer seedlings than prefire adults in 7 cases, and more in 2 cases. Seedlings found in Feb (2), Mar, Apr (5) and May.

Fire Survival (14 records): 93% survived by seedlings only, 7% eliminated from the area by fires.

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



Height (145 records): 1% 0-0.2 m tall, 28% 0.2-1 m tall, 69% 1-2 m tall, 2% 2-5 m tall.

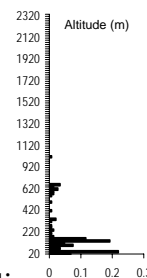
Pollinators (19 records): 58% birds, 42% beetles.

Detailed Pollinators (12 records): Cape Sugarbird (11), Orange-breasted Sunbird.

Habitat:

Distance to Ocean (143 records): 53% coastal - less than 2 km from coast.

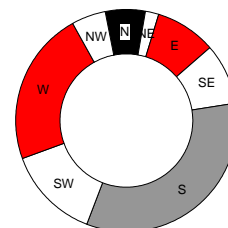
Altitude (144 records): 20 - 660 m; 20_{lq} - 40_{med} - 60_{uq} m.



Landform (143 records): 61% deep soil, 32% swamp, 6% riverine.

Slope (141 records): 55% gentle incline, 32% platform, 9% valley bottom, 3% hill top, 2% steep incline.

Aspect (100 records): 44% South, 33% West, 15% East, 9% North.



Soil Type (142 records): 49% sandy, 27% peaty, 23% loamy, 1% gravelly.

Soil Colour (141 records): 40% grey, 30% black, 23% brown, 8% white.

Geology (134 records): 96% sandstone, 2% Tertiary sands.

Vegetation (144 records): 98% shrubland, 1% thicket.

Conservation Status and Threat:

Red Data List Status: Vulnerable A4c.

Occurrence (Fynbos): 909 km² with 40% conserved and 22% lost; Occupancy: 105 km² with 63% conserved and 13% lost. Fragmentation index: 6%.

Nature Reserves (144 records): 79% in nature reserves - well conserved.

Habitat destruction (141 records): 85% extensive natural habitat, 9% naturally linear habitats, 4% islands.

Alien Invasive Species (138 records): 65% none, 22% Fabaceae (chiefly alien *Acacia*), 8% *Pinus*, 3% *Hakea*, 1% Myrtaceae.

Alien Density (138 records): 65% alien-free, 28% sparse, 4% abundant, 1% dense.

Cultivation & Utilization:

Picking (117 records): 97% no sign of picking, 3% lightly picked, 0.9% severely picked.

Cultivation Status: Plantings - 2 records (1%).

Atlassers Notes:

New up after fire and after pines cleared! (AGRY2102001); Lots damaged by trampling along path and 3 plants almost killed (AGRY5021301); Formerly seen here is now not visible among dense pine seedlings (AKS93090107); Previously Recorded As A Large Population - Now Only 7 Plants (CRS94101302); Some 8 plants growing in a seep. This is the population that was rumoured but not yet found by atlassers (NGFY5021301); Almost wiped out by the building of a golf course and caravan park on a wetland -

remaining plants severely threatened due to lack of management and insensitive municipal officials (PAP92011201); Confined to stream - normally linear but other plants more extensive (CVV98030102); Mr Miniki (major landowner in area) tells me that until 1960 there were large populations in the upper Klaasjagers river valley which were then bulldozed for kikuyu planting (NAH99041402).

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

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes palustris Salisb. ex Kn. 1809

Cryptic Pagoda

Geelstompie

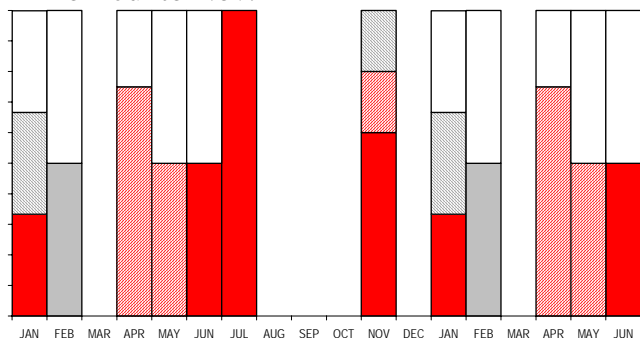
Other Common Names: Marsh Mimetes.
Other Scientific Names: *decapitata* Meisn. 1856.

20 Records

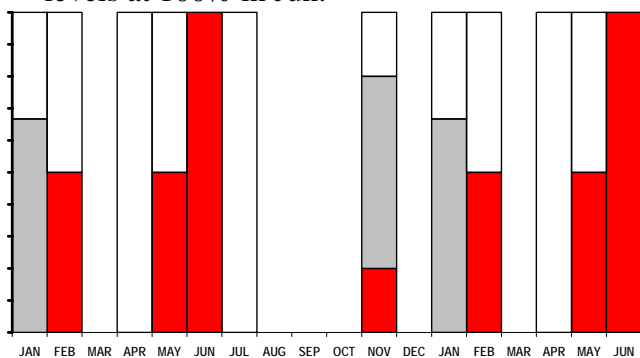
Population (20 records): 10% Common, 55% Frequent, 35% Rare.

Dispersion (18 records): 50% clumped, 44% variable, 6% evenly distributed.

Flowering (20 records with: Jan 3, Feb 2, Mar 0, Apr 4, May 2, Jun 2, Jul 2, Aug 0, Sep 0, Oct 0, Nov 5, Dec 0): Buds from Apr to May and Nov; Flowering from Nov to Jan and Jun to Jul; Peak Flowering not recorded; Over from Nov to Jan; Fruit from Feb; Nothing from Jan to Jun. Peak levels at 100% in Jul and Nov. Historically recorded as flowering from Jul to Nov.



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



Seedlings (13 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 9 years.



Height (20 records): 25% 0-0.2 m tall, 75% 0.2-1 m tall.

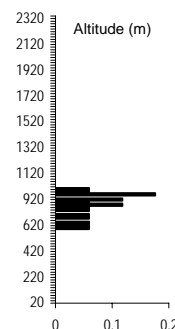
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (17 records): 100% inland - further than 2 km from coast.

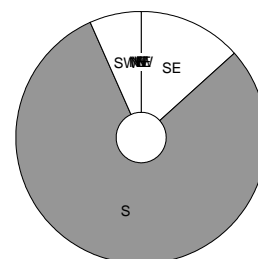
Altitude (17 records): 580 - 900 m; 680_{lq} - 780_{med} - 800_{uq}m.



Landform (17 records): 88% deep soil, 12% shallow soil.

Slope (17 records): 53% steep incline, 29% gentle incline, 12% hill top, 6% platform.

Aspect (15 records): 90% South, 7% East, 3% West.



Soil Type (17 records): 41% sandy, 35% peaty, 24% loamy.

Soil Colour (17 records): 71% black, 29% grey.

Geology (17 records): 100% sandstone.

Vegetation (17 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Critically Endangered B1b(iii)c(iv).

Occurrence (Fynbos): 26 km² with 38% conserved and 20% lost; **Occupancy:** 31 km² with 39% conserved and 21% lost. **Fragmentation index:** 100%.

Nature Reserves (17 records): 29% in nature reserves.

Habitat destruction (17 records):

100% extensive natural habitat.

Alien Invasive Species (17 records): 53% none, 47% *Pinus*.

Alien Density (17 records): 53% alien-free, 47% sparse.

Cultivation & Utilization:

Picking (17 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlasers Notes:

Some 6 plants 1-1.5 m tall - could these be *M. capitulatus* (not flowering)? (AGR95040518);

Confusing Species: None noted. Some taller plants might be *M. capitulatus*.

Records of identification queries = 3.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Mimetes pauciflorus R.Br. 1810

Three-flowered Pagoda

Slankevlambos

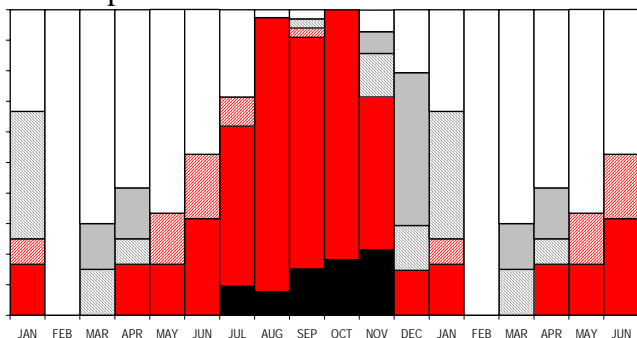
Other Common Names: Slender Pagoda, *Outeniquastompie*.
Other Scientific Names: *rehmanni* Gand & Schinz 1913.

244 Records

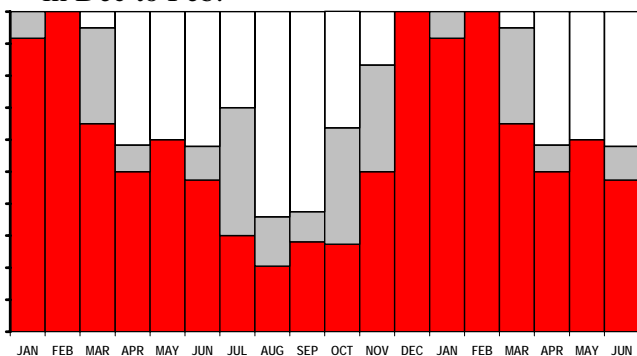
Population (244 records): 16% Common, 72% Frequent, 11% Rare.

Dispersion (229 records): 55% clumped, 29% variable, 11% widespread, 4% evenly distributed.

Flowering (237 records with: Jan 12, Feb 10, Mar 20, Apr 12, May 12, Jun 19, Jul 21, Aug 39, Sep 33, Oct 11, Nov 14, Dec 34): Buds from Jun; Flowering from Jun to Nov; Peak Flowering from Nov; Over from Jan; Fruit from Dec; Nothing from Dec to Jul. Peak levels at 100% in Oct. Historically recorded as flowering from Aug to Nov, with a peak in Sep.



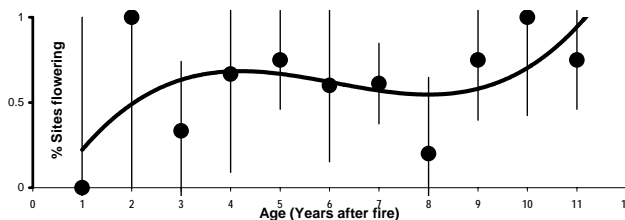
Growth (231 records with: Jan 12, Feb 10, Mar 20, Apr 12, May 10, Jun 19, Jul 20, Aug 39, Sep 32, Oct 11, Nov 12, Dec 34): Much from all year; Rare from Mar, Jul and Oct to Nov; None from Apr to Oct. Peak levels at 100% in Dec to Feb.



Seedlings (105 records): Absent in 75%: fewer seedlings than prefire adults in 7 cases, and more in 6 cases. Seedlings found in Jan (2), Jul (6), Aug (2), Sep, Oct, and Nov.

Fire Survival (17 records): 88% survived by seedlings only, 12% escaped fires in fire-safe areas.

Age to first flowering: First flowers recorded at 2 years, 50% estimated at 2-4 years, and 100% recorded at 10 years.



Height (243 records): 5% 0-0.2 m tall, 51% 0.2-1 m tall, 42% 1-2 m tall, 2% 2-5 m tall.

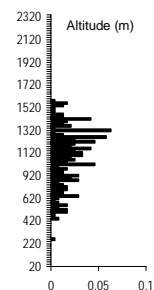
Pollinators (2 records): 50% birds, 50% beetles.

Detailed Pollinators (1 record): Cape Sugarbird.

Habitat:

Distance to Ocean (240 records): 100% inland - further than 2 km from coast.

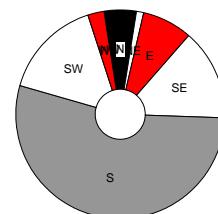
Altitude (240 records): 240 - 1480 m; 780 *lq* - 1020 *med* - 1160 *uq*m.



Landform (238 records): 77% deep soil, 18% shallow soil, 5% rocky outcrops.

Slope (240 records): 57% steep incline, 21% gentle incline, 19% hill top, 3% cliff.

Aspect (200 records): 71% South, 13% East, 11% West, 6% North.



Soil Type (239 records): 51% loamy, 32% peaty, 15% sandy, 1% gravelly, 1% rocky.

Soil Colour (239 records): 57% black, 23% grey, 20% brown.

Geology (238 records): 100% sandstone.

Vegetation (240 records): 98% shrubland, 2% grassland.

Conservation Status and Threat:

Red Data List Status: Vulnerable A2c+4c.

Occurrence (Fynbos): 2 096 km² with 39% conserved and 18% lost; Occupancy: 254 km² with 52% conserved and 11% lost. Fragmentation index: 10%.

Nature Reserves (240 records): 68% in nature reserves - well conserved.

Habitat destruction (224 records): 99% extensive natural habitat.

Alien Invasive Species (235 records): 52% *Pinus*, 31% none, 14% *Hakea*, 2% Fabaceae (chiefly alien *Acacia*).

Alien Density (234 records): 31% alien-free, 65% sparse, 3% abundant.

Cultivation & Utilization:

Picking (156 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

In flower can this be due to the very dry spell being experienced in the outenique's at this time? (DFJ96062901);

In spite of very dry conditions young plants were all thriving. Were they responding as if there had just been a fire? (DFJ96062902);

At least 10 000 seedlings - coming up like hairs on a dogs back in 1-yr old veld (OUT97030107);

Very healthy & widespread here - also contrary to protea guide many young plants pushing up through dense fynbos without stimulus of fire! (DFJ97083002);

Most plants dead - a lot of seedlings around, some plants with new shoots (AMMY0121304); Some plants dead - appears to be from old age (OUT95060301);

Plants dying from drought (OUTY0080501); Some 575 plants - about 25% in flower and about an additional 10% dead - drought conditions (MCIY1072601);

Confusing Species: None noted, typing mistakes of *M. palustris*.

Records of identification queries = 2

Records of corrected identification queries = 1.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Orothamnus zeyheri Pappe ex Hook.f 1848

Marsh Rose

Bergroos

Other Common Names: Mountain Rose, *Vleiroos*.

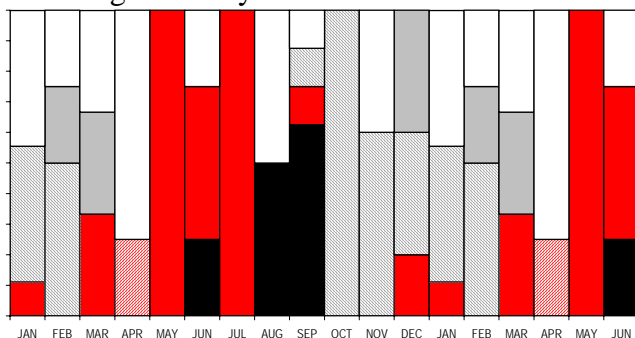
Other Scientific Names: *None*.

52 Records

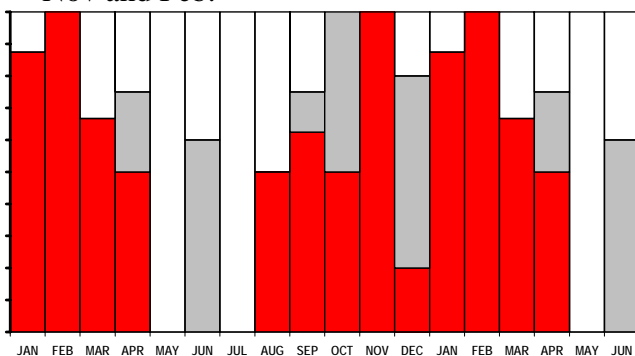
Population (51 records): 41% Common, 39% Frequent, 20% Rare.

Dispersion (50 records): 68% variable, 32% clumped.

Flowering (52 records with: Jan 9, Feb 4, Mar 3, Apr 4, May 1, Jun 8, Jul 1, Aug 2, Sep 8, Oct 2, Nov 5, Dec 5): Buds from Apr; Flowering from Mar and May to Jul; Peak flowering from Jun and Aug to Sep; Over from Oct to Feb; Fruit from Feb to Mar and Dec; Nothing from Jan to Apr, Jun, Aug and Nov. Peak levels at 100% in May and Jul. Historically recorded as flowering from throughout the year.



Growth (48 records with: Jan 8, Feb 4, Mar 3, Apr 4, May 1, Jun 5, Jul 1, Aug 2, Sep 8, Oct 2, Nov 5, Dec 5): Much from Aug to Jan; Rare from Apr, Jun, Oct and Dec; None from Mar to Sep. Peak levels at 100% in Oct to Nov and Feb.



Seedlings (44 records): All without any seedlings present.

Fire Survival (4 records): 75% survived by seedlings only, 25% eliminated from the area by fires.

Age to first flowering: First flowers recorded at 5 years, 50% estimated at 7 years, and 100% recorded at 8 years.



Height (52 records): 12% 0-0.2 m tall, 29% 0.2-1 m tall, 42% 1-2 m tall, 17% 2-5 m tall.

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

Habitat:

Distance to Ocean (35 records): 100% inland - further than 2 km from coast.

Altitude (35 records): 360 - 900 m; 600_{lq} - 660_{med} - 720_{uq}m.

Landform (35 records): 83% deep soil, 14% swamp, 3% shallow soil.

Slope (35 records): 46% steep incline, 26% cliff, 26% gentle incline, 3% hill top.

Aspect (34 records): 78% South, 21% East, 1% West.

Soil Type (35 records): 86% peaty, 6% sandy, 6% loamy, 3% gravelly.

Soil Colour (35 records): 51% black, 34% brown, 14% grey.

Geology (35 records): 100% sandstone.

Vegetation (35 records): 100% shrubland.

Conservation Status and Threat:

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

Occurrence (Fynbos): 196 km² with 43% conserved and 16% lost; Occupancy: 23 km² with 47% conserved and 18% lost.
Fragmentation index: 10%.

Nature Reserves (35 records): 97% in nature reserves - well conserved.

Habitat destruction (34 records): 97% extensive natural habitat, 3% naturally linear habitats.

Alien Invasive Species (35 records): 100% none.

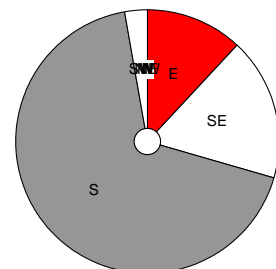
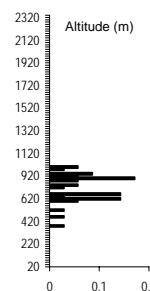
Alien Density (35 records): 100% alien-free.

Cultivation & Utilization:

Picking (49 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlasers Notes:

Small-leaved population (MAJ98091601);



Over 4.5m tall. Amazing! (ASP96092301);
Still to flower - slow maturing population
(MAJY0011501);
Plants looks sick! (APE93042517);
New growth falling open in a wilting manner on
three of the plants (MAJ94010201);
Soon to be less than frequent with 2 of 11 plants
dying - senescent? (SHRY2012701);
Poor regeneration of 22-26 plants: population
double burnt Mar '95 with 80-85 plants
(MAJ97012801, MAJ98043001);
Post fire there were 18 seedlings - today 7
plants remain - 2 skeletons are evident. Two
plants were described as "McCann's plants"
(NGFY3060702);

The honey bee was a surprize ! First time ive
seen it being actively visited ie plant to plant
by any pollinator ! (MAJY0042201);

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

Variation and Taxonomy: Add.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Vexatorella Rourke 1984
Vexators

Anything specific to go in here?

First recognized in 1984 by John Rourke, this group was previously regarded by Rourke (1972) as the section *Xericola* of *Leucospermum*. This section was an anomaly in *Leucospermum* as it had terminal flowerheads, although *L. secundifolium* was also placed here. Interestingly Salisbury placed it in the Conebushes based on its terminal heads – he only described the “males”, and so presumably never noted the fruit.

Vexatorella alpina (Salisb. ex Kn.) Rourke 1809, 1984
Kamiesberg Vexator

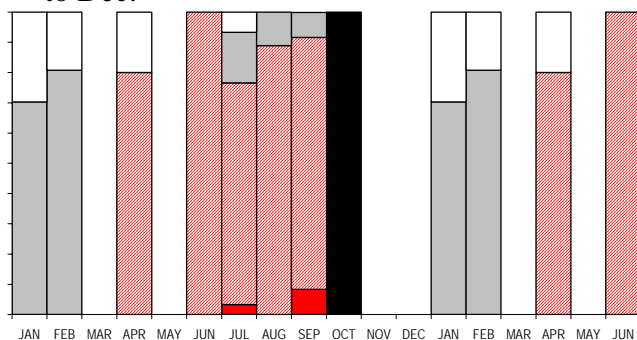
Other Common Names: Alpine Protea,
Knoppiesbos.
Other Scientific Names: *cartilagineum* (RBr)
 1810.

138 Records

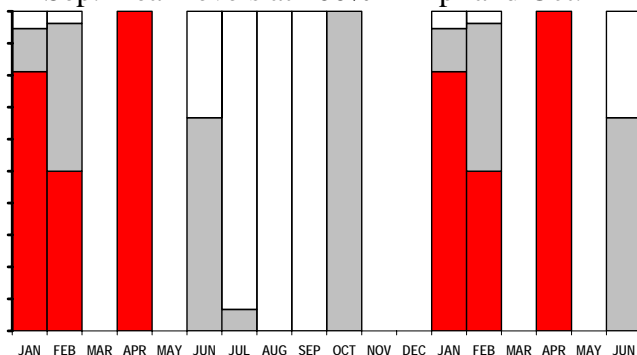
Population (138 records): 44% Common,
 43% Frequent, 13% Rare.

Dispersion (134 records): 73% variable,
 26% clumped.

Flowering (136 records with: Jan 37, Feb 26,
 Mar 0, Apr 5, May 0, Jun 15, Jul 30, Aug 9,
 Sep 12, Oct 2, Nov 0, Dec 0): Buds from Apr
 to Sep; Flowering from Sep; Peak Flowering
 from Oct; Over not recorded; Fruit from Jan
 to Feb and Jul to Aug; Nothing from Jan to
 Apr. Peak levels at 100% in May and Oct.
 Historically recorded as flowering from Sep
 to Dec.



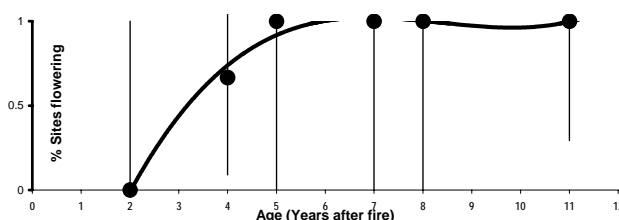
Growth (135 records with: Jan 37, Feb 26, Mar
 0, Apr 5, May 0, Jun 15, Jul 30, Aug 8, Sep
 12, Oct 2, Nov 0, Dec 0): Much from Jan to
 Apr; Rare from Oct to Jul; None from Jun to
 Sep. Peak levels at 100% in Apr and Oct.



Seedlings (101 records): Absent in 90%; fewer
 seedlings than prefire adults in 3 cases, and
 more in 2 cases. Seedlings found in Apr (5).

Fire Survival (22 records): 91% survived by
 seedlings only, 5% eliminated from the area
 by fires, 5% resprouted from underground
 boles.

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



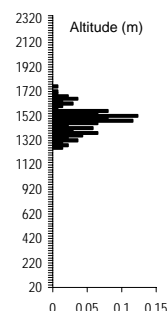
Height (138 records): 1% 0-0.2 m tall,
 38% 0.2-1 m tall, 50% 1-2 m tall, 11% 2-5 m
 tall.

Pollinators (1 record): flies.
Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (138 records):
 100% inland - further than 2
 km from coast.

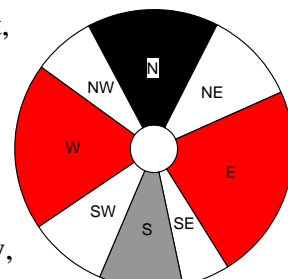
Altitude (138 records): 1140 -
 1660 m; 1300_{lq} - 1380_{med} -
 1400_{uq}m.



Landform (137 records):
 47% deep soil, 45% shallow
 soil, 7% rocky outcrops.

Slope (137 records): 46% gentle incline,
 39% steep incline, 11% hill top,
 4% platform.

Aspect (123 records):
 32% East, 29% West,
 23% North,
 17% South.



Soil Type (136
 records):
 51% loamy,
 41% sandy,
 4% rocky, 2% clayey,
 1% gravelly.

Soil Colour (134 records): 40% brown,
 33% orange, 16% grey, 9% red, 1% black.

Geology (137 records): 99% granite.

Vegetation (137 records): 99% shrubland.

Conservation Status and Threat:

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

Occurrence (Fynbos): 36 km² with 0 %
 conserved and no data on area lost;
Occupancy: 104 km² with 0 % conserved
 and no data on area lost. Fragmentation
 index: 30%.

Nature Reserves (138 records): 0% in nature
 reserves - unconserved.

Habitat destruction (137 records):
 92% extensive natural habitat, 4% naturally
 fragmented habitats, 4% islands.

Alien Invasive Species (136 records):
 99% none.

Alien Density (136 records): 99% alien-free.

Cultivation & Utilization:

Picking (128 records): 98% no sign of picking,
 2% lightly picked.

Cultivation Status: No noted cultivation.

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

Atlassers Notes:

Height: Reaching over 2 m tall: (AGR97070502); Population includes a couple of massive old plants bordering on 2 m tall (SHR97083101).

Diameter: Up to 3 m across (WIJ92071701, WIJ92071707); Single plant of 10 m diameter of which northern half had died (AGRY4090901).

Age distribution: Some young, some giants (AGRY4091001); A large and healthy population with a good scattering of size classes - lots of small plants - although many small plants dead (AGRY4091103); About 5% of population are large dead specimens which appear to have senesced - some very large plants with no cones (NAH92040501); Very few seedlings with large burnt adults in this small area that is regularly burnt by the community to provide grazing; surrounded by older veld no plants of flowering age as yet although surrounding population has buds (NAH92040602); About 2000 plants: no dead - all healthy (AGR98013110); Some young plants but about 30% of mature are dead (AGR98013113); Seedlings very rare: < 1% (NAH92040501); Very common in the area and reproducing well (NAH92040601); Young veld with many young plants (NAH92040603); Young plants just about equal in number to adult plants (NAH92040701); Plants are quite old spreading plants - some dead ones but no evidence of fire (WMP98013102); Quite a few large old dead plants - no sign of fire (WMP98013104+5); One mature and one dead/burnt plant with lots of young plants close by (WMP98013107).

Habitat: In river courses! (AGR98013106); Prefers deep soils in saddles at low altitudes (AGR98013119); Shallow soil patches only (AGR98020111); None on south side of slope where more clay and more Renosterveldty (AGRY4091001); In riverine sandy patch on valley bottom (AGRY4091003); Just above huge granite slabs - strange not present in better habitat to north - but this obviously yields better water? (AGRY4091006); Clumps twist granite domes! (AGRY4091101+2); Older plants in a single clump in a neck between huge granite slabs (AGRY4091104); In clumps between the huge granite slabs of the mountainside (WIJ92071705).

Parasites: Covered with *Viscum* and Dodder: veld old - plants dying (AGR98013121); with *Viscum* (AGR97070604, AGR98013132, AGRY4091003), with Mistletoe (NAH92040501); Witches Broom-type growth on leaves (PGD98072201); Cancerous malformation of flowerhead noted on a few plants (FBH97091502).

Exploitation: 2 killed and totally chopped out for firewood - huge stems (AGR97070601); 5 plants killed for firewood (AGR97070604).

Misc: Ladybirds and snout beetles found in old flowerheads (LYM98013102).

Confusing Species: None.

Records of identification queries = 3

Variation and Taxonomy: None noted.

Distribution: Add.

INCLUDEPICTURE

"C:\\temp\\atlas\\VEALPI_m.jpg" \\
MERGEFORMAT \d

Vexatorella amoena (Rourke) Rourke 1972, 1984
Swartruggens Vexator

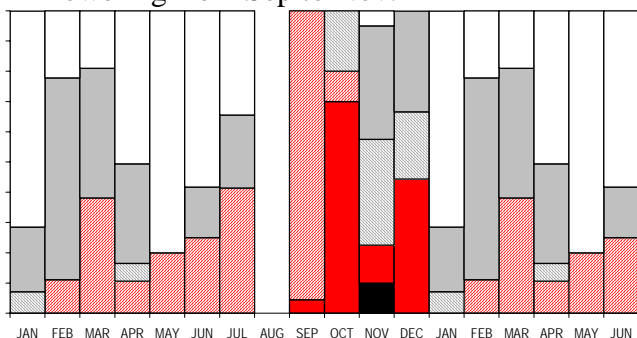
Other Common Names: *Vaalbos*.
Other Scientific Names: *None*.

280 Records

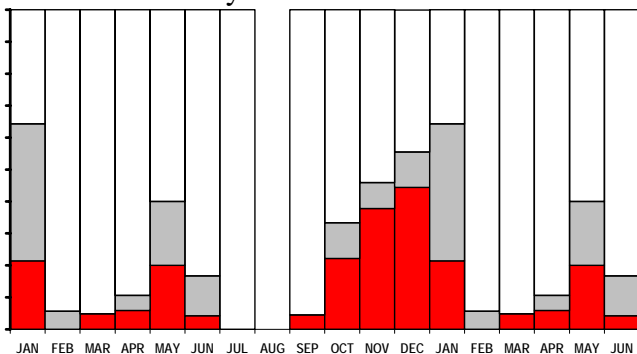
Population (278 records): 23% Common, 66% Frequent, 10% Rare.

Dispersion (259 records): 73% variable, 24% clumped, 2% widespread.

Flowering (277 records with: Jan 14, Feb 18, Mar 21, Apr 85, May 5, Jun 24, Jul 29, Aug 0, Sep 22, Oct 10, Nov 40, Dec 9): Buds from Mar to Oct; Flowering from Oct to Dec; Peak Flowering from Nov; Over from Oct to Dec; Fruit from Nov to Apr and Jul; Nothing from Jan to Jul. Peak levels at 100% in Sep to Oct. Historically recorded as flowering from Sep to Nov.



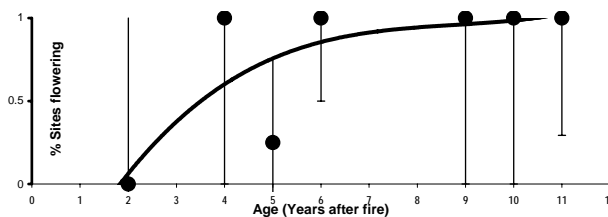
Growth (272 records with: Jan 14, Feb 18, Mar 21, Apr 85, May 5, Jun 24, Jul 28, Aug 0, Sep 22, Oct 9, Nov 37, Dec 9): Much from Oct to Jan and May; Rare from Jan and May; None from all year round. Peak levels at 64% in January.



Seedlings (105 records): Absent in 98%; fewer seedlings than prefire adults in 1 case. Seedlings found in Sep.

Fire Survival (19 records): 47% eliminated from the area by fires, 21% escaped fires in fire-safe areas, 16% survived by seedlings only, 16% resprouted from underground boles.

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



Height (276 records): 9% 0-0.2 m tall, 89% 0.2-1 m tall, 2% 1-2 m tall.

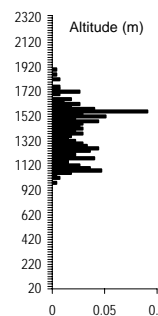
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (274 records): 100% inland - further than 2 km from coast.

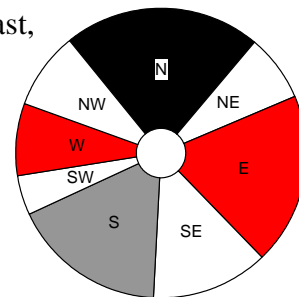
Altitude (274 records): 860 - 1800 m; 1100 *lq* - 1280 *med* - 1420 *uq*m.



Landform (271 records): 50% shallow soil, 48% deep soil, 3% rocky outcrops.

Slope (271 records): 68% gentle incline, 15% steep incline, 9% hill top, 6% platform.

Aspect (247 records): 31% North, 29% East, 27% South, 14% West.



Soil Type (272 records): 35% sandy, 23% loamy, 20% gravelly, 19% rocky, 2% clayey.

Soil Colour (272 records): 40% brown, 29% grey, 14% yellow, 9% orange, 7% white, 1% red.

Geology (253 records): 78% sandstone, 22% shale.

Vegetation (271 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 1 539 km² with 6 % conserved and 5 % lost; **Occupancy:** 320 km² with 1 % conserved and 2 % lost. **Fragmentation index:** 17%.

Nature Reserves (274 records): 0% in nature reserves - unconserved.

Habitat destruction (270 records): 94% extensive natural habitat, 5% islands.

Alien Invasive Species (260 records): 85% none, 13% *Pinus*.

Alien Density (260 records): 85% alien-free, 13% sparse, 2% abundant.

Cultivation & Utilization:

Picking (192 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Witch's Broom Infestation: 1 record (0.4%).

Atlassers Notes:

Leaves too long; these measured 35-40 mm by 9 mm (NGF99042504); Some leaves were multi-toothed! (WIJ99042607).

Confusing Species: Some identification errors with *V. obtusata subsp. obtusata* noted.

Records of identification queries = 6

Records of corrected identification queries = 2.

Variation and Taxonomy: None noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Vexatorella latebrosa Rourke 1984
Robertson Vexator

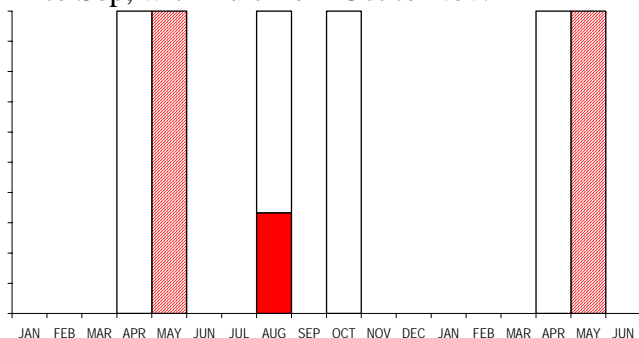
Other Common Names: None known.
Other Scientific Names: *None*.

7 Records

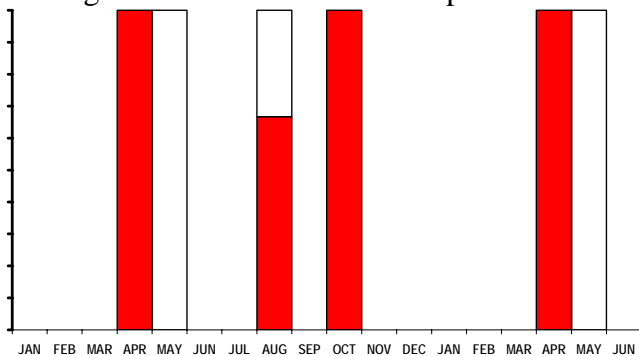
Population (7 records): 43% Common, 29% Frequent, 29% Rare.

Dispersion (7 records): 57% variable, 43% clumped.

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



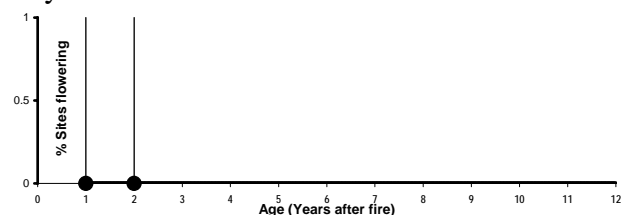
Growth (7 records with: Jan 0, Feb 0, Mar 0, Apr 2, May 1, Jun 0, Jul 0, Aug 3, Sep 0, Oct 1, Nov 0, Dec 0): Much from Apr, Aug and Oct; Rare not recorded; None from May and Aug. Peak levels at 100% in Apr and Oct.



Seedlings (5 records): All without any seedlings present.

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

Age to first flowering: Not yet flowered at 2 years: no additional data.



Height (7 records): 43% 0-0.2 m tall, 29% 0.2-1 m tall, 29% 1-2 m tall.

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

Detailed Pollinators: Bees and black, hairy beetles (SHR93080101).

Habitat:

Distance to Ocean (6 records): 100% inland - further than 2 km from coast.

Altitude (6 records): 520 - 580 m; 520_{lq} - 540_{med} - 540_{uq} m.

Landform (6 records): 100% deep soil.

Slope (6 records): 83% steep incline, 17% gentle incline.

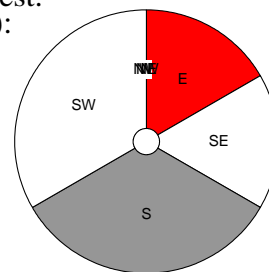
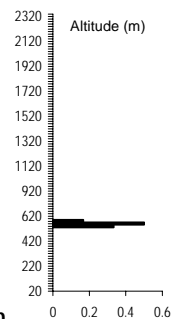
Aspect (6 records): 67% South, 17% East, 17% West.

Soil Type (6 records): 100% loamy.

Soil Colour (6 records): 83% brown, 17% red.

Geology (6 records): 83% shale, 17% sandstone.

Vegetation (6 records): 100% shrubland.



Conservation Status and Threat:

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

Occurrence (Fynbos): 1 km² with 0% conserved and 0% lost; **Occupancy:** 3 km² with 0% conserved and 0% lost. Fragmentation index meaningless.

Nature Reserves (6 records): 100% in nature reserves - well conserved.

Habitat destruction (6 records): 100% extensive natural habitat.

Alien Invasive Species (6 records): 100% none.

Alien Density (6 records): 100% alien-free.

Cultivation & Utilization:

Picking (6 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlasers Notes:

Main trunks about 50 mm in diameter 10 years later (SHR93052103);

Flowers sweetly scented (SHR93080101);

Altitude about 460 m and not as high as 520 m based on altimeter (WIJY0100107).

Confusing Species: None noted.

Records of identification queries = 1.

Variation and Taxonomy: None noted.

Distribution: Add.

INCLUDEPICTURE

"C:\\temp\\atlas\\VELATE_m.jpg" * MERGEFORMAT \d

Vexatorella obtusata ssp. albomontana (Rourke) Rourke 1972, 1984
Witteberg Vexator

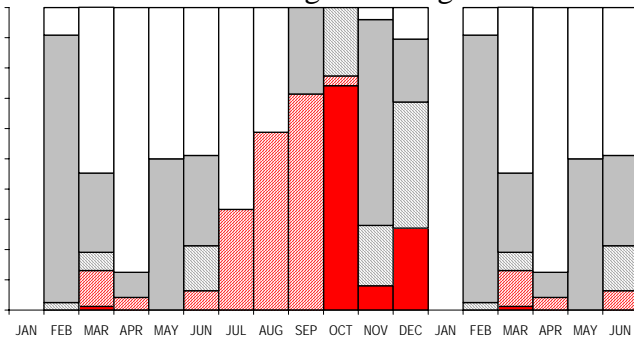
Other Common Names: None known.
Other Scientific Names: *None*.

446 Records

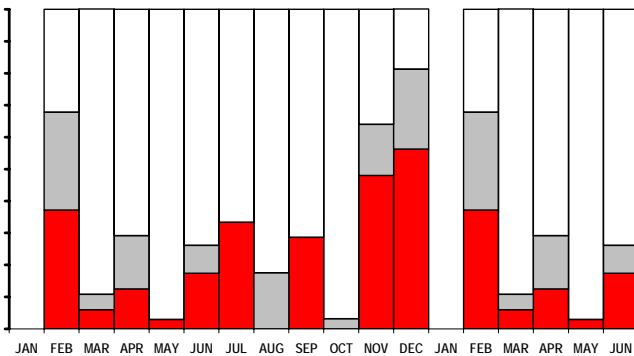
Population (444 records): 21% Common, 64% Frequent, 15% Rare.

Dispersion (414 records): 68% variable, 26% clumped, 5% widespread, 1% evenly distributed.

Flowering (441 records with: Jan 0, Feb 121, Mar 84, Apr 24, May 34, Jun 47, Jul 3, Aug 17, Sep 7, Oct 31, Nov 25, Dec 48): Buds from Jul to Sep; Flowering from Oct and Dec; Peak Flowering not noted; Over from Oct to Dec; Fruit from Nov to Mar and May to Jun and Sep; Nothing from Mar to Aug. Peak levels at 100% in Oct. Historically recorded as flowering from Aug to Nov.



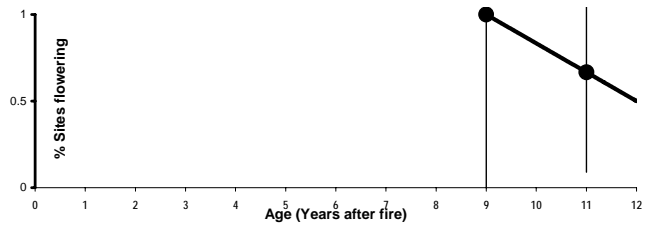
Growth (441 records with: Jan 0, Feb 121, Mar 84, Apr 24, May 35, Jun 46, Jul 3, Aug 17, Sep 7, Oct 31, Nov 25, Dec 48): Much from Nov to Feb and Jul and Sep; Rare from Dec to Feb; None from Feb to Nov. Peak levels at 81% in Dec.



Seedlings (198 records): All without any seedlings present.

Fire Survival (12 records): 58% survived by seedlings only, 25% escaped fires in fire-safe areas, 17% resprouted from underground boles.

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



Height (440 records): 3% 0-0.2 m tall, 85% 0.2-1 m tall, 12% 1-2 m tall.

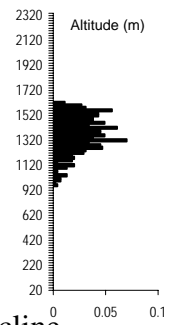
Pollinators (14 records): 36% butterflies or moths, 36% bees or wasps, 21% beetles, 7% flies.

Detailed Pollinators (4 records): Heady Maiden Moth (3), Honey Bee.

Habitat:

Distance to Ocean (446 records): 100% inland - further than 2 km from coast.

Altitude (446 records): 840 - 1520 m; 1160 *lq* - 1260 *med* - 1340 *uq*m.



Landform (443 records): 64% shallow soil, 33% deep soil, 3% rocky outcrops.

Slope (445 records): 48% steep incline, 29% gentle incline, 17% hill top, 2% platform, 2% cliff.

Aspect (383 records): 71% South, 15% North, 8% East, 6% West.

Soil Type (442 records):

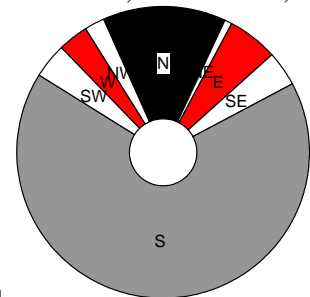
36% loamy, 28% rocky, 21% sandy, 12% gravelly, 2% clayey.

Soil Colour (442 records):

41% brown, 38% grey, 8% orange, 6% black, 4% yellow, 2% red.

Geology (356 records): 85% sandstone, 15% shale.

Vegetation (442 records): 100% shrubland.



Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 968 km² with 18% conserved and 1% lost; Occupancy: 433 km² with 24% conserved and 1% lost. Fragmentation index: 18%.

Nature Reserves (446 records): 29% in nature reserves.

Habitat destruction (443 records): 96% extensive natural habitat, 3% naturally linear habitats.

Alien Invasive Species (427 records): 100% none.

Alien Density (427 records): 100% alien-free.

Cultivation & Utilization:

Picking (310 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Witch's Broom Infestation: 7 records (2%).

Atlassers Notes:

Up to 2 m tall (WIJY0031807);

A very narrow leaf form: 1-2 mm wide - looked like a hermaphroditic *Leucadendron brunioides*! (AGRY1020813+15);

VCH98102202 PO Moth - Red / Black;

With crown swelling-growths resembling fasciation in *L. hypophyllocarpodendron* at Atlantis (AGR96060507+12, AGR96060703); With Witches Broom-type growth (AGR97051818)

Confusing Species: Atlassers often forgot to record the subspecies. Misidentified with *V. amoena*, and when not in flower with *Leucadendron album* and *L. dregei*.

Records of identification queries = 10.

Records of corrected identification queries = 8.

Variation and Taxonomy: Atlassers noted taller plants and narrower leaves than described for the species. However, no geographical variation was noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Vexatorella obtusata ssp. obtusata (Thunb.) Rourke 1803, 1984
Montagu Vexator

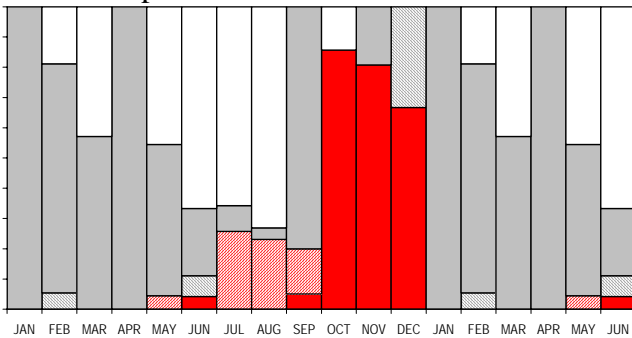
Other Common Names: None known.
Other Scientific Names: *None*.

290 Records

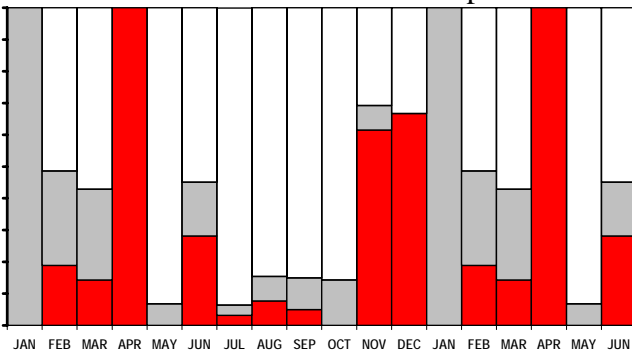
Population (287 records): 19% Common, 63% Frequent, 18% Rare.

Dispersion (262 records): 73% variable, 24% clumped, 3% widespread.

Flowering (287 records with: Jan 2, Feb 37, Mar 7, Apr 1, May 44, Jun 72, Jul 35, Aug 26, Sep 20, Oct 14, Nov 26, Dec 3): Buds from Jul to Aug; Flowering from Oct to Dec; Peak Flowering not noted; Over from Dec; Fruit from Jan to Jun and Sep; Nothing from Mar and May to Aug. Peak levels at 100% in Dec. Historically recorded as flowering from Sep to Dec.



Growth (282 records with: Jan 2, Feb 37, Mar 7, Apr 1, May 44, Jun 71, Jul 31, Aug 26, Sep 20, Oct 14, Nov 26, Dec 3): Much from Apr, Jun and Nov to Dec; Rare from Jan to Mar; None from Feb to Mar and May to Dec. Peak levels at 100% in Jan and Apr.



Seedlings (115 records): Absent in 98%; fewer seedlings than prefire adults in 1 case. Seedlings found in Jun.

Fire Survival (8 records): 38% survived by seedlings only, 38% resprouted from underground boles, 25% eliminated from the area by fires.

Age to first flowering: First flowers recorded at 1 year, insufficient data to estimate 50%, and 100% recorded at 1 and 5 years.



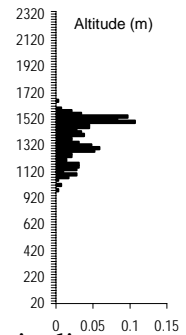
Height (287 records): 57% 0-0.2 m tall, 43% 0.2-1 m tall.

Pollinators : No data.

Habitat:

Distance to Ocean (290 records): 100% inland - further than 2 km from coast.

Altitude (290 records): 860 - 1560 m; 1160 *lq* - 1280 *med* - 1400 *uq*m.

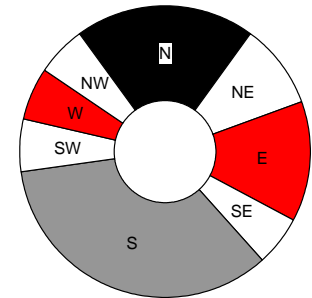


Landform (289 records): 64% deep soil, 33% shallow soil, 3% rocky outcrops.

Slope (288 records): 57% gentle incline, 18% hill top, 17% steep incline, 9% platform.

Aspect (220 records):

41% South,
 27% North,
 21% East,
 12% West.



Soil Type (286 records): 43% sandy, 28% loamy, 13% gravelly, 12% rocky, 4% clayey.

Soil Colour (280 records): 50% brown, 38% grey, 4% white, 4% orange, 3% red, 2% yellow.

Geology (268 records): 85% sandstone, 15% shale.

Vegetation (288 records): 99% shrubland.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 875 km² with 7% conserved and 2% lost; **Occupancy:** 266 km² with 7% conserved and 2% lost. **Fragmentation index:** 11%.

Nature Reserves (290 records): 9% in nature reserves - inadequately conserved.

Habitat destruction (284 records): 96% extensive natural habitat, 2% naturally linear habitats, 1% naturally fragmented habitats.

Alien Invasive Species (287 records): 95% none, 3% *Pinus*, 1% Fabaceae (chiefly alien *Acacia*).

Alien Density (287 records): 95% alien-free, 4% sparse.

Cultivation & Utilization:

Picking (271 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Witch's Broom Infestation: 1 record (0.3%).

Atlassers Notes:

One plant over 5 m in diameter

(AGRY2052822);

Perfect centrifugal flowering (SHR97092402);

Interfire recruitment common (PMR99060504);

Confined to Quartzitic outcrops

(AGRY3111914); In sandstone outcrop

(GEDY2082201); In sandy flats

(PMR99060502).

Confusing Species: Confused with *V. obtusata albomontana*.

Records of identification queries = 16

Records of corrected identification queries = 1.

Variation and Taxonomy: None noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

