

***Paranomus* Salisb. 1807**
Scepters

Robert Brown named this genus *Nivenia*, but the name was already applied to a group of Iridaceae, and is thus invalid, even though it continued to be used until 1930.

Anything specific to go in here?

Paranomus abrotanifolius Salisb. ex Kn. 1809
Bredasdorp Scepter

Other Common Names: Southern-woodleaf
Paranomus.

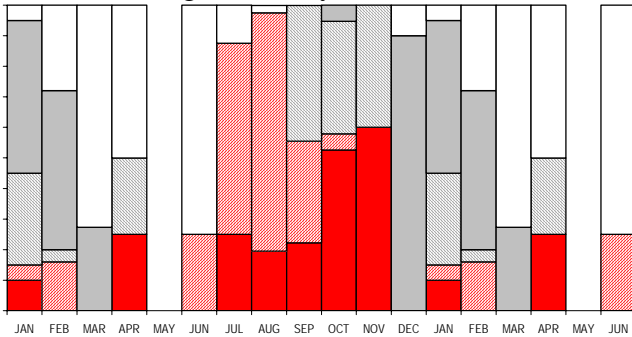
Other Scientific Names: *micranthus* (Schlt)
1900.

189 Records

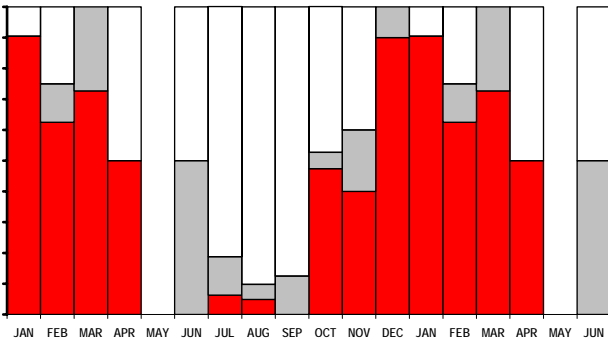
Population (184 records): 0.5% Abundant,
24% Common, 59% Frequent, 16% Rare.

Dispersion (153 records): 65% variable,
33% clumped, 3% widespread.

Flowering (164 records with: Jan 20, Feb 25,
Mar 11, Apr 4, May 0, Jun 4, Jul 16, Aug 41,
Sep 9, Oct 19, Nov 5, Dec 10): Buds from
Jun to Sep; Flowering from Apr and Jul to
Nov; Peak Flowering not recorded; Over
from Jan, Apr and Sep to Nov; Fruit from
Dec to Mar; Nothing from Feb to Jun. Peak
levels at 100% in Nov. Historically recorded
as flowering from May to Dec.



Growth (163 records with: Jan 21, Feb 24, Mar
11, Apr 4, May 0, Jun 4, Jul 16, Aug 41, Sep
8, Oct 19, Nov 5, Dec 10): Much from Oct to
Apr; Rare from Mar, Jun and Nov; None
from Feb, Apr to Nov. Peak levels at 100%
in Dec and Mar.



Seedlings (92 records): Absent in 91%: fewer
seedlings than prefire adults in 2 cases, and
more in 2 cases. Seedlings found in Aug, Oct
and Nov (2).

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

Age to first flowering: First flowers recorded
at 1 years, 50% estimated at 4-5 years, and
100% recorded at 6 years.



Height (163 records): 4% 0-0.2 m tall,
93% 0.2-1 m tall, 2% 1-2 m tall.

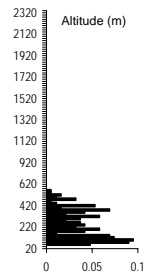
Pollinators (6 records): 67% bees or wasps,
33% beetles.

Detailed Pollinators (4 records): Honey Bee.

Habitat:

Distance to Ocean (189 records):
100% inland - further than 2
km from coast.

Altitude (189 records): 40 - 560
m; 100_{lq} - 180_{med} - 300_{uq}m.

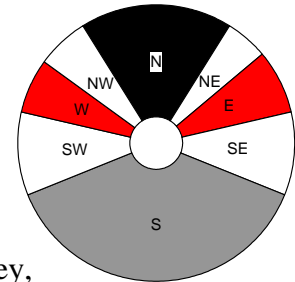


Landform (165 records):
76% deep soil, 19% shallow
soil, 5% rocky outcrops.

Slope (166 records): 51% gentle incline,
32% steep incline, 11% platform, 5% hill
top, 1% valley bottom.

Aspect (145 records):

49% South,
24% North,
13% West,
13% East.



Soil Type (167
records):
41% sandy,
39% loamy,
7% rocky, 6% clayey,
6% gravelly, 1% peaty.

Soil Colour (166 records): 52% grey,
37% brown, 4% black, 4% white,
2% orange, 1% red, 0.6% yellow.

Geology (185 records): 71% sandstone,
15% shale, 14% silcrete or ferricrete,
0.5% limestone, 0.5% Tertiary sands.

Vegetation (188 records): 99% shrubland,
0.5% grassland.

Conservation Status and Threat:

Red Data List Status: Vulnerable A2c+4c.

Occurrence (Fynbos): 1 347 km² with 33%
conserved and 28% lost; **Occupancy:**
212 km² with 27% conserved and 25% lost.
Fragmentation index: 11%.

Nature Reserves (189 records): 54% in nature
reserves - well conserved.

Habitat destruction (164 records):
90% extensive natural habitat, 7% islands,
2% naturally linear habitats, 1% naturally
fragmented habitats.

Alien Invasive Species (155 records):
41% none, 37% Fabaceae (chiefly alien
Acacia), 15% *Pinus*, 5% Myrtaceae,
2% *Hakea*.

Alien Density (155 records): 41% alien-free,
45% sparse, 11% abundant, 3% dense.

Cultivation & Utilization:

Picking (126 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes: None.

Confusing Species: Confused with many species (*P. adiantifolius*, *P. bolusii*, *P. centauroides*, and *Serruria acrocarpa*), but only casually.

Records of identification queries = 9

Records of corrected identification queries = 7.

Variation and Taxonomy: No variation noted. The Potberg populations are more robust and erect than the Agulhas populations, but this variation has never been detailed.

Distribution: Add.

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Paranomus bolusii (Gand.) Levyns 1901, 1970 Overberg Scepter

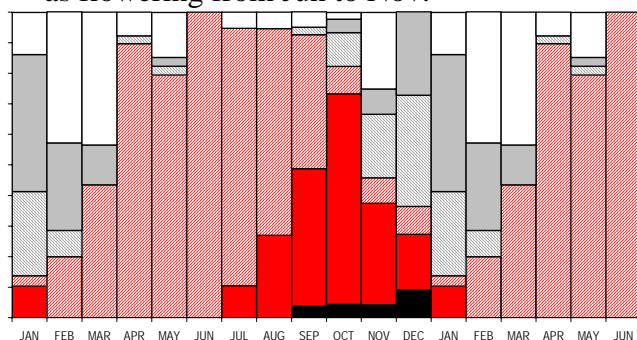
Other Common Names: Viking Scepter.
Other Scientific Names: *caledonensis* Levyns 1968, *crithmifolia* (R.Br.) 1810.

436 Records

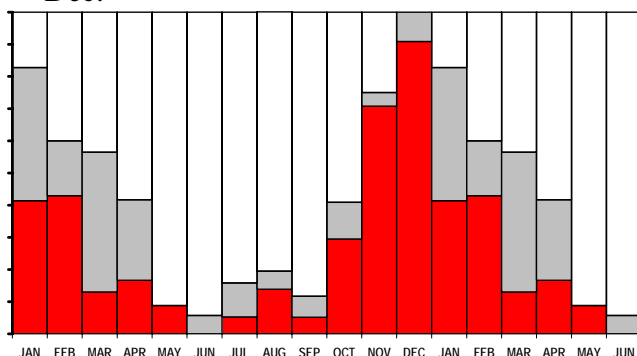
Population (433 records): 0.5% Abundant, 26% Common, 58% Frequent, 15% Rare.

Dispersion (400 records): 82% variable, 15% clumped, 3% widespread, 0.3% evenly distributed.

Flowering (434 records with: Jan 29, Feb 35, Mar 46, Apr 39, May 34, Jun 35, Jul 19, Aug 37, Sep 80, Oct 45, Nov 24, Dec 11): Buds from Feb to Sep; Flowering from Aug to Nov; Peak Flowering not significant; Over from Nov to Jan; Fruit from Dec to Jan; Nothing from Feb to Mar and Nov. Peak levels at 100% in Jun. Historically recorded as flowering from Jun to Nov.



Growth (426 records with: Jan 29, Feb 35, Mar 46, Apr 36, May 34, Jun 35, Jul 19, Aug 36, Sep 77, Oct 44, Nov 24, Dec 11): Much from Oct to Feb; Rare from Jan, Mar to Apr; None from Feb to Nov. Peak levels at 100% in Dec.



Seedlings (171 records): All without any seedlings present.

Fire Survival (17 records): 100% survived by seedlings only.

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



Height (435 records): 5% 0-0.2 m tall, 94% 0.2-1 m tall, 0.9% 1-2 m tall.

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

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

Habitat:

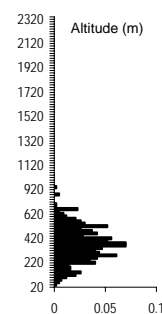
Distance to Ocean (427 records): 100% inland - further than 2 km from coast.

Altitude (427 records): 20 - 840 m; 260_{lq} - 360_{med} - 400_{uq} m.

Landform (424 records): 86% deep soil, 12% shallow soil, 2% rocky outcrops.

Slope (425 records): 72% gentle incline, 16% steep incline, 8% hill top, 4% platform.

Aspect (384 records): 33% North, 30% South, 24% West, 13% East.

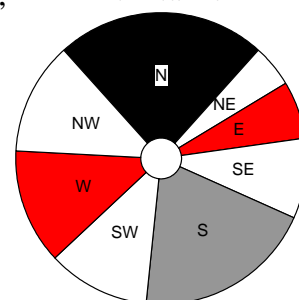


Soil Type (424 records): 61% sandy, 21% loamy, 10% gravelly, 6% clayey, 3% rocky.

Soil Colour (424 records): 58% grey, 29% brown, 6% white, 4% orange, 2% yellow, 1% black.

Geology (400 records): 81% sandstone, 13% shale, 6% silcrete or ferricrete, 0.5% Tertiary sands.

Vegetation (424 records): 97% shrubland, 2% plantations, 0.5% grassland, 0.2% woodland, 0.2% agricultural lands.



Conservation Status and Threat:

Red Data List Status: Vulnerable A2c.

Occurrence (Fynbos): 703 km² with 17% conserved and 30% lost; **Occupancy:** 290 km² with 19% conserved and 33% lost. **Fragmentation index:** 21%.

Nature Reserves (427 records): 30% in nature reserves.

Habitat destruction (421 records): 89% extensive natural habitat, 8% islands, 1% road verges, 1.0% naturally linear habitats, 0.5% naturally fragmented habitats, 0.2% corridors.

Alien Invasive Species (420 records): 49% *Pinus*, 22% *Hakea*, 17% Fabaceae (chiefly alien *Acacia*), 7% none, 4% Myrtaceae.

Alien Density (420 records): 7% alien-free, 59% sparse, 27% abundant, 6% dense, 0.5% impenetrable.

Cultivation & Utilization:

Picking (312 records): 100% no sign of picking, 0.3% lightly picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Buds parasitised by insects (PVR93041804);

Galls which look like buds (CHE98030501);

Visited by a shiny black and brown bee (SMR99102902);

Confusing Species: Casually mistaken for *Paranomus bracteolaris* and *Serruria species* – no serious errors.

Records of identification queries = 7

Records of corrected identification queries = 2.

Variation and Taxonomy: No variation noted. The species name *crithmifolia* cannot be used as Salisbury earlier used it for *P. spicatus*.

Distribution: Add.

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Paranomus bracteolaris Salisb. ex Kn. 1809
Smooth-leaf Tree Sceptre
Haakbos

Other Common Names: Bokkeveld Poppiesbos, Glabrous-leaf Scepter, Hairless Scepter, Narrow-bract Paranomus, *Afveebos*, *Balbyterbos*, *Balbyterbos*, *Heuningbos*, *Kakbos*, *Kloofbesem*, *Perdebos*, *Sandblom*, *Sousbos*, *Trosbos*.

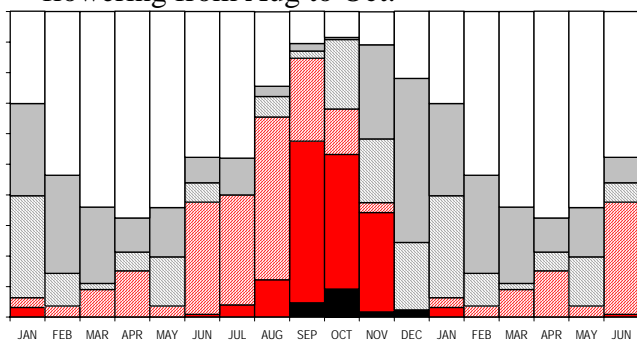
Other Scientific Names: *medius* (RBr) 1810.

968 Records

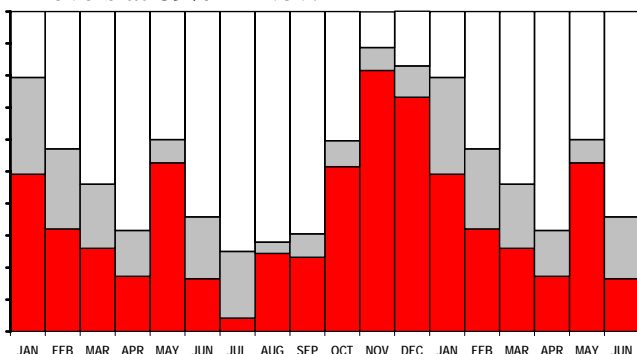
Population (961 records): 0.6% Abundant, 25% Common, 53% Frequent, 21% Rare, 0.2% Extinct.

Dispersion (854 records): 70% variable, 23% clumped, 6% widespread, 2% evenly distributed.

Flowering (957 records with: Jan 63, Feb 28, Mar 100, Apr 99, May 56, Jun 109, Jul 25, Aug 90, Sep 85, Oct 141, Nov 120, Dec 41): Buds from Jun to Sep; Flowering from Sep to Nov; Peak Flowering not significant; Over from Oct to Jan and May; Fruit from Nov to Mar; Nothing from Dec to Aug. Peak levels at 91% in Oct. Historically recorded as flowering from Aug to Oct.



Growth (920 records with: Jan 63, Feb 28, Mar 100, Apr 98, May 55, Jun 109, Jul 24, Aug 86, Sep 82, Oct 136, Nov 98, Dec 41): Much from Aug to Mar and May; Rare from Jan to Mar and Jul; None from Jan to Oct. Peak levels at 89% in Nov.

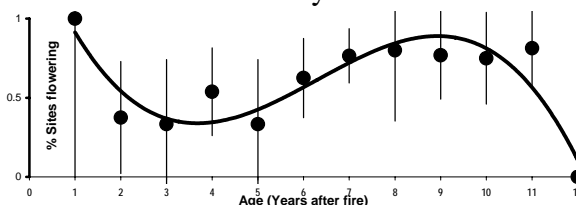


Seedlings (393 records): Absent in 84%: fewer seedlings than prefire adults in 25 cases, and more in 7 cases. Seedlings found in Jan (18), Feb, Mar (2), Jun (4), Jul, Aug (2), Nov (3) and Dec.

Fire Survival (51 records): 76% survived by seedlings only, 18% escaped fires in fire-safe

areas, 6% resprouted from underground boles.

Age to first flowering: First flowers recorded at 1 years, 50% estimated at 3-5 years, and 100% recorded at 13 years.



Height (955 records): 3% 0-0.2 m tall, 44% 0.2-1 m tall, 46% 1-2 m tall, 7% 2-5 m tall, 0.1% taller than 5 m.

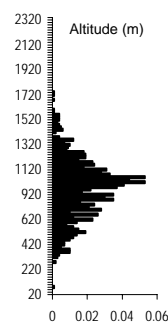
Pollinators (28 records): 50% bees or wasps, 29% beetles, 11% butterflies or moths, 7% birds, 4% flies.

Detailed Pollinators (15 records): Carpenter Bee (7), Moth (unspecified) (3), Monkey Beetle (3), Malachite Sunbird, Honey Bee.

Habitat:

Distance to Ocean (961 records): 100% inland - further than 2 km from coast.

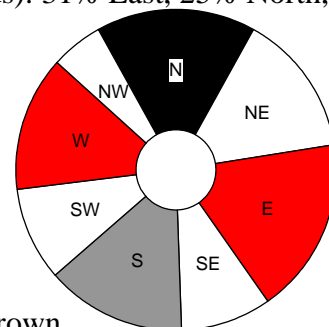
Altitude (961 records): 60 - 1640 m; 680 *lq* - 880 *med* - 980 *uq*m.



Landform (948 records): 58% deep soil, 32% shallow soil, 10% rocky outcrops, 0.3% riverine, 0.3% swamp.

Slope (950 records): 54% gentle incline, 23% steep incline, 10% hill top, 10% platform, 1% valley bottom, 1% cliff.

Aspect (813 records): 31% East, 25% North, 24% South, 21% West.



Soil Type (949 records): 60% sandy, 19% gravelly, 11% rocky, 9% loamy, 1% clayey.

Soil Colour (944 records): 48% brown, 22% grey, 10% yellow, 10% orange, 5% red, 4% white.

Geology (938 records): 90% sandstone, 6% shale, 3% silcrete or ferricrete, 1.0% Tertiary sands, 0.1% conglomerate.

Vegetation (951 records): 99% shrubland, 0.4% agricultural lands, 0.2% wooded grassland, 0.1% thicket, 0.1% woodland, 0.1% forest.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 4 532 km² with 18% conserved and 12% lost; Occupancy:

1 022 km² with 31% conserved and 6% lost.
Fragmentation index: 15%.

Nature Reserves (961 records): 32% in nature reserves.

Habitat destruction (932 records):
86% extensive natural habitat, 9% islands,
2% naturally linear habitats, 1% road verges,
1.0% naturally fragmented habitats.

Alien Invasive Species (911 records):
90% none, 6% *Pinus*, 3% Fabaceae (chiefly
alien *Acacia*), 0.8% other aliens,
0.4% Myrtaceae.

Alien Density (906 records): 91% alien-free,
8% sparse, 1% abundant, 0.1% dense.

Cultivation & Utilization:

Picking (621 records): 100% no sign of
picking, 0.3% severely picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Two huge plants - gnarled and broken for
firewood - 2 X 3 m tall (AGR97040613);
Some to over 5 m tall! (AGR98120610);
Over 4 m tall! (AGRY0093035); One plant
was about 6 m in diameter! (COJ96083101);
Half plants dead (AGRY1022505); Many plants
brown or dead (JAT93112801); One live and

also dead plants (WIJ99013003); New
growth dead! (AGR93071706);
Many coppicing at base probably due to grazing
by sheep (NAH94032702);
More common in old fields (AGR98062712);
Lots of moths at midday bumbling around
flowers (AGRY0102817);

Confusing Species: Considerable confusion
exists in the zone between *P. lagopus* and
this species, where it is uncertain as to which
species the plants are - primarily as there is
an intermediate zone and the diagnostic
features for the species are (style 12 mm
long) inadequately described. Occasionally
misidentified as *Paranomus dispersus* and
less frequently as *P. tomentosus*.

Records of identification queries = 64

Records of corrected identification queries = 39.

Variation and Taxonomy: No variation noted.

Distribution: Add.

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Paranomus candicans (Thunb.) Kuntze 1794, 1891
Powder Scepter

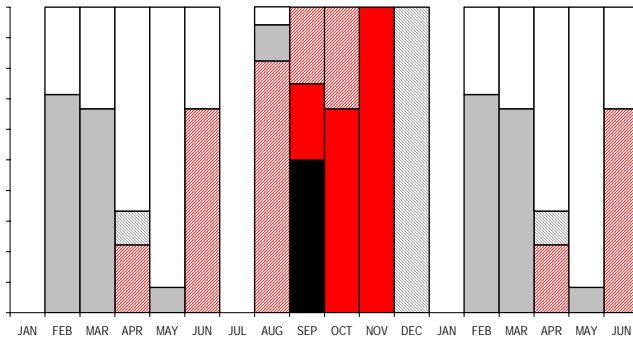
Other Common Names: Silvery Paranomus.
Other Scientific Names: *argenteus* Salisb. ex Knight 1809, *laxus* (Schle) 1897, *mollissima* (RBr) 1810.

69 Records

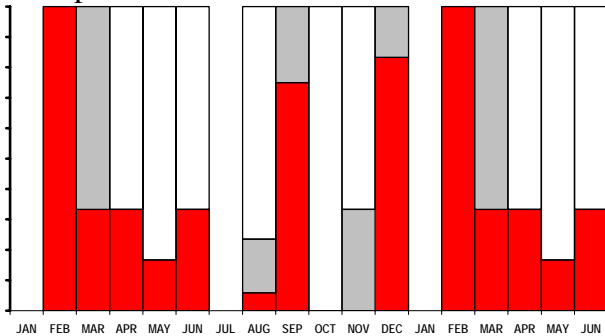
Population (68 records): 38% Common, 46% Frequent, 16% Rare.

Dispersion (66 records): 52% variable, 47% clumped, 2% widespread.

Flowering (67 records with: Jan 0, Feb 7, Mar 3, Apr 9, May 12, Jun 3, Jul 0, Aug 17, Sep 4, Oct 3, Nov 3, Dec 6): Buds from Apr, Jun to Oct; Flowering from Sep to Nov; Peak Flowering from Sep; Over from Dec; Fruit from Feb to Mar; Nothing from Feb to Jun. Peak levels at 100% in Sep to Dec. Historically recorded as flowering from Jun to Nov.



Growth (67 records with: Jan 0, Feb 7, Mar 3, Apr 9, May 12, Jun 3, Jul 0, Aug 17, Sep 4, Oct 3, Nov 3, Dec 6): Much from Feb to Apr and Jun, Sep and Dec; Rare from Mar, Sep and Nov; None from Apr to Aug and Oct to Nov. Peak levels at 100% in Dec to Mar and Sep.



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

Fire Survival (13 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 5 years.



Height (68 records): 68% 0.2-1 m tall, 32% 1-2 m tall.

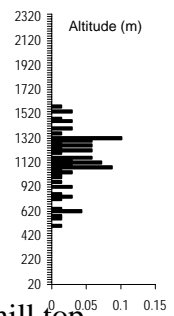
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (69 records): 100% inland - further than 2 km from coast.

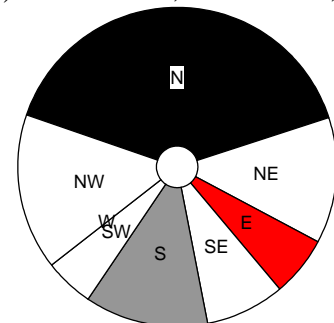
Altitude (69 records): 480 - 1480 m; 920_{lq} - 1040_{med} - 1160_{uq}m.



Landform (68 records): 53% shallow soil, 46% deep soil, 1% rocky outcrops.

Slope (68 records): 54% steep incline, 32% gentle incline, 9% hill top, 3% platform, 1% cliff.

Aspect (63 records): 58% North, 20% South, 16% East, 6% West.



Soil Type (67 records): 36% sandy, 31% rocky, 28% loamy, 4% gravelly.

Soil Colour (68 records): 59% grey, 34% brown, 3% black, 3% yellow, 1% orange.

Geology (68 records): 96% sandstone, 4% shale.

Vegetation (68 records): 99% shrubland, 1% grassland.

Conservation Status and Threat:

Red Data List Status: Least Concern. Occurrence (Fynbos): 655 km² with 14% conserved and 4% lost; Occupancy: 86 km² with 15% conserved and 5% lost. Fragmentation index: 6%.

Nature Reserves (69 records): 7% in nature reserves - inadequately conserved.

Habitat destruction (67 records): 99% extensive natural habitat, 1% naturally linear habitats.

Alien Invasive Species (66 records): 91% none, 6% *Pinus*, 3% *Hakea*.

Alien Density (66 records): 91% alien-free, 8% sparse, 2% impenetrable.

Cultivation & Utilization:

Picking (58 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes: None.

Confusing Species: One instance of *P. dispersus*.

Records of identification queries = 4.

Records of corrected identification queries = 1.

Variation and Taxonomy: A northern form with leaves that lose their silvery appearance and with bristly hairs on the floral bracts and perianth limbs, was

formerly regarded as *P. laxus*. An eastern form is also distinct – but details of its features are not given. These were not upheld by Levyns as they integrate with the central typical form.

Distribution: Add.

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Paranomus dispersus Levyns Long-head Scepter

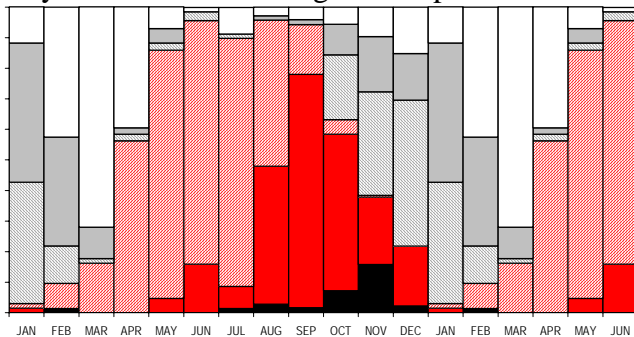
Other Common Names: None known.
Other Scientific Names: *None*.

1162 Records

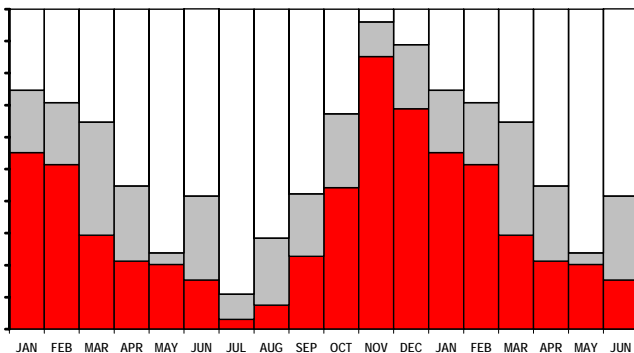
Population (1153 records): 0.6% Abundant, 27% Common, 59% Frequent, 13% Rare, 0.2% Extinct.

Dispersion (1076 records): 64% variable, 29% clumped, 6% widespread, 2% evenly distributed.

Flowering (1147 records with: Jan 68, Feb 73, Mar 68, Apr 48, May 85, Jun 69, Jul 69, Aug 71, Sep 123, Oct 250, Nov 177, Dec 46): Buds from Apr to Aug; Flowering from Aug to Dec; Peak Flowering from Nov; Over from Oct to Jan; Fruit from Jan to; Nothing from Feb to Apr. Peak levels at 99% in Jun. Historically recorded as flowering from all year round with a Aug to Nov peak.



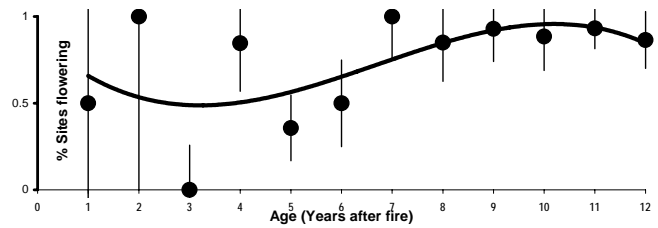
Growth (1129 records with: Jan 67, Feb 72, Mar 68, Apr 47, May 84, Jun 65, Jul 64, Aug 67, Sep 123, Oct 251, Nov 176, Dec 45): Much from Sep to May; Rare from Mar to Apr and Jun and Aug to Oct; None from Jan to Oct.



Seedlings (359 records): Absent in 86%: fewer seedlings than prefire adults in 18 cases, and more in 8 cases. Seedlings found in Jan (4), Feb (2), Apr (2), May (4), Jun (4), Sep (5), Oct, Nov (2) and Dec (2).

Fire Survival (42 records): 76% survived by seedlings only, 12% eliminated from the area by fires, 12% escaped fires in fire-safe areas.

Age to first flowering: First flowers recorded at 1 years, 50% estimated at 4-6 years, and 100% recorded at 7 years.



Height (1152 records): 2% 0-0.2 m tall, 81% 0.2-1 m tall, 16% 1-2 m tall, 0.2% 2-5 m tall.

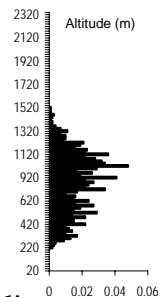
Pollinators (25 records): 48% bees or wasps, 20% flies, 20% beetles, 8% birds, 4% butterflies or moths.

Detailed Pollinators (15 records): Honey Bee (6), Carpenter Bee (5), Monkey Beetle (2), Solitary Bee, Orange-breasted Sunbird.

Habitat:

Distance to Ocean (1157 records): 100% inland - further than 2 km from coast.

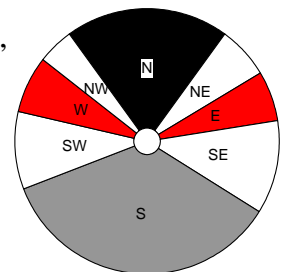
Altitude (1157 records): 200 - 1420 m; 560 *lq* - 780 *med* - 940 *uq*m.



Landform (1155 records): 58% shallow soil, 37% deep soil, 5% rocky outcrops.

Slope (1155 records): 52% steep incline, 38% gentle incline, 6% hill top, 2% platform, 2% cliff, 0.2% valley bottom.

Aspect (1075 records): 46% South, 26% North, 15% East, 14% West.



Soil Type (1151 records): 60% sandy, 20% loamy, 9% gravelly, 9% rocky, 1% clayey, 0.3% peaty.

Soil Colour (1150 records): 48% brown, 44% grey, 2% black, 2% orange, 1% white, 1% yellow, 0.9% red.

Geology (1143 records): 97% sandstone, 2% shale, 0.7% conglomerate.

Vegetation (1156 records): 100% shrubland, 0.2% grassland.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 4 371 km² with 28% conserved and 7% lost; **Occupancy:** 1 039 km² with 30% conserved and 4% lost. **Fragmentation index:** 8%.

Nature Reserves (1157 records): 31% in nature reserves.

Habitat destruction (1146 records): 98% extensive natural habitat, 0.9% islands, 0.4% naturally linear habitats, 0.3% naturally fragmented habitats, 0.2% road verges, 0.1% corridors.

Alien Invasive Species (1131 records): 78% none, 11% *Hakea*, 7% *Pinus*,

3% Fabaceae (chiefly alien *Acacia*),
0.4% Myrtaceae, 0.1% other aliens.
Alien Density (1128 records): 78% alien-free,
20% sparse, 1% abundant, 0.4% dense,
0.2% impenetrable.

Cultivation & Utilization:

Picking (952 records): 100% no sign of
picking, 0.1% severely picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

The biggest shrub we have ever seen: 3 m in
diameter and 2 m tall - covered in buds about
to open - what a sight spectacular!
(VJK98080102);

Heads full of seed, but much of it eaten by
something leaving hole in centre of seeds
(OUT93111309);

Skeletons frequent - some huge, most dead
within this fire cycle of very old age
(AGRY2052715);

Confusing Species: Mistaken for *P. bolusii*
and *P. bracteolaris*, and rarely for *P.*
candicans, *P. dregei*, *P. lagopus* and
Serruria.

Records of identification queries = 64

Records of corrected identification queries = 37.

Variation and Taxonomy: No variation noted.
P. candicans from Cloetes Pass (Muir 1015)
is a silvery form of *P. dispersus*.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus lagopus (Thunb.) Salisb. 1781, 1807

Rabbit-paw Scepter

Other Common Names: Cluster-flower
Paranomus.

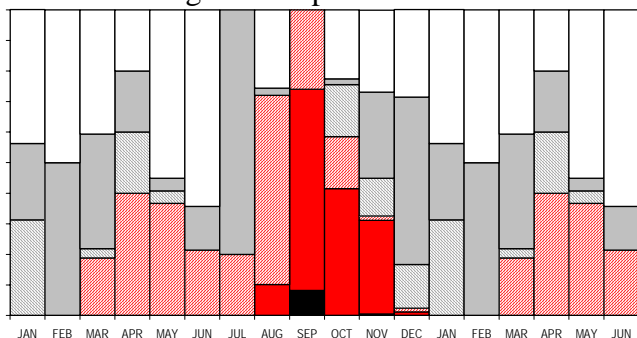
Other Scientific Names: *cumuliflorus* Salisb.
ex Knight 1809.

743 Records

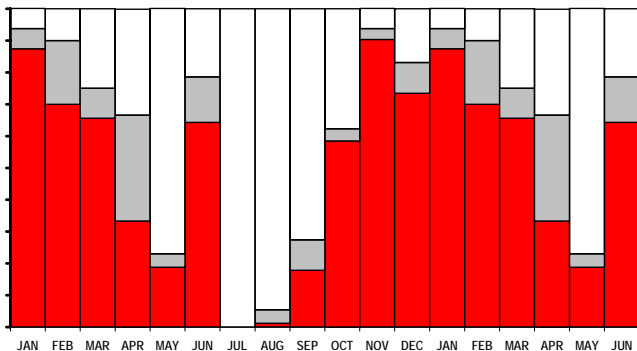
Population (743 records): 0.4% Abundant,
43% Common, 43% Frequent, 13% Rare.

Dispersion (692 records): 74% variable,
22% clumped, 2% widespread, 1% evenly
distributed.

Flowering (738 records with: Jan 16, Feb 30,
Mar 32, Apr 5, May 49, Jun 14, Jul 5, Aug
168, Sep 73, Oct 53, Nov 209, Dec 84): Buds
from Apr to Sep; Flowering from Sep to
Nov; Peak Flowering not significant; Over
from Jan and Apr; Fruit from Nov to Apr and
Jul; Nothing from Oct to Jun and Aug. Peak
levels at 100% in Sep. Historically recorded
as flowering from Sep to Nov.



Growth (734 records with: Jan 16, Feb 30, Mar
32, Apr 6, May 48, Jun 14, Jul 5, Aug 166,
Sep 73, Oct 53, Nov 208, Dec 83): Much
from Oct to Apr and Jun; Rare from Apr 33;
None from Mar to Oct. Peak levels at 94%
in Nov and Jan.



Seedlings (319 records): Absent in 96%: fewer
seedlings than prefire adults in 1 cases, and
more in 6 cases. Seedlings found in Oct and
Dec (6).

Fire Survival (97 records): 92% survived by
seedlings only, 8% escaped fires in fire-safe
areas.

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



Height (740 records): 6% 0-0.2 m tall,
67% 0.2-1 m tall, 26% 1-2 m tall, 0.7% 2-5
m tall.

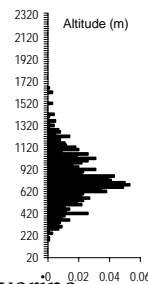
Pollinators (45 records): 53% beetles,
24% bees or wasps, 13% butterflies or
moths, 7% flies, 2% birds.

Detailed Pollinators (31 records): Monkey
Beetle (13), Carpenter Bee (6), Honey Bee
(5), African Monarch Butterfly (3), Skipper
Butterfly, Scarab Beetle, Orange-breasted
Sunbird, Moth (unspecified).

Habitat:

Distance to Ocean (737 records):
100% inland - further than 2
km from coast.

Altitude (737 records): 160 -
1560 m; 580 *lq* - 700 *med* - 820
*uq*m.

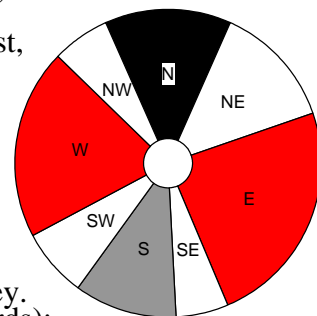


Landform

(732 records):
73% deep soil, 24% shallow
soil, 3% rocky outcrops, 0.3% riverine.

Slope (730 records): 56% gentle incline,
30% steep incline, 7% hill top, 6% platform,
0.8% valley bottom, 0.1% cliff.

Aspect (650 records):
34% East, 26% West,
22% North,
17% South.



Soil Type

(731 records):
54% sandy,
21% gravelly,
17% loamy,
6% rocky, 3% clayey.

Soil Colour (731 records):
57% brown, 20% grey, 8% orange,
6% yellow, 5% red, 2% white, 0.1% black.

Geology (724 records): 80% sandstone,
18% shale, 0.8% silcrete or ferricrete,
0.6% Tertiary sands, 0.3% conglomerate.

Vegetation (734 records): 99% shrubland,
0.4% agricultural lands, 0.4% plantations,
0.1% grassland.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 2 365 km² with 15%
conserved and 16% lost; **Occupancy:**
632 km² with 8% conserved and 10% lost.
Fragmentation index: 20%.

Nature Reserves (737 records): 8% in nature
reserves - inadequately conserved.

Habitat destruction (723 records):
86% extensive natural habitat, 10% islands,

3% naturally linear habitats, 0.8% naturally fragmented habitats, 0.1% road verges, 0.1% corridors.

Alien Invasive Species (705 records): 75% none, 17% *Pinus*, 5% Fabaceae (chiefly alien *Acacia*), 2% Myrtaceae, 0.7% other aliens, 0.3% *Hakea*.

Alien Density (703 records): 75% alien-free, 22% sparse, 2% abundant, 0.4% dense.

Cultivation & Utilization:

Picking (513 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Mostly grazed quite low and now sprouting again (SMR99050603);

One third of young dead (VCH98080804);

Confusing Species: In the north of its range it grades into *P. bracteolaris* and it is difficult to assign specimens to one or other species. Records of identification queries = 159. Records of corrected identification queries = 131.

Variation and Taxonomy: No variation noted. Atlassers found that northern plants tended to *P. bracteolaris* and caused considerable confusion, partly because good diagnostic characters for the two species are not enumerated: most of the differences are qualitative, with *P. lagopus* effectively being gracile.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus nova (Nomen nudum)
Palmiet Sceptre

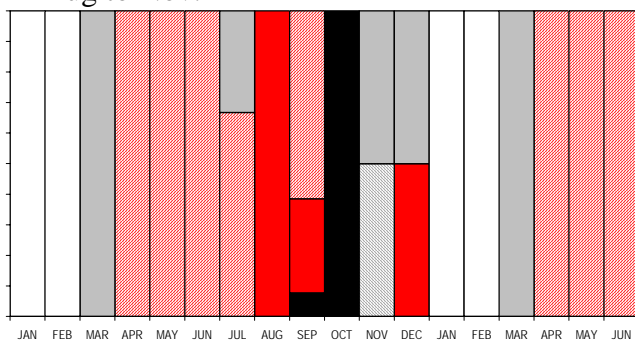
Other Common Names: None known.
Other Scientific Names: *None*.

30 Records

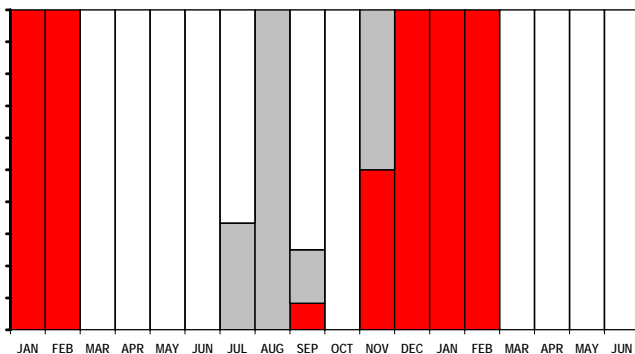
Population (29 records): 62% Common, 28% Frequent, 10% Rare.

Dispersion (28 records): 46% variable, 43% clumped, 11% evenly distributed.

Flowering (30 records with: Jan 1, Feb 1, Mar 1, Apr 2, May 1, Jun 1, Jul 3, Aug 1, Sep 13, Oct 2, Nov 2, Dec 2): Buds from Apr to Sep; Flowering from Aug to Sep and Dec; Peak Flowering from Oct; Over from Nov; Fruit from Mar, Jul and Nov to Dec; Nothing from Jan to Feb. Peak levels at 100% in Apr to Oct. Historically recorded as flowering from Aug to Nov.



Growth (29 records with: Jan 1, Feb 1, Mar 1, Apr 2, May 1, Jun 1, Jul 3, Aug 1, Sep 12, Oct 2, Nov 2, Dec 2): Much from Nov to Feb; Rare from Jul to Aug and Nov; None from Mar to Jul and Sep to Oct. Peak levels at 100% in Nov to Feb.



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

Fire Survival : No data.

Age to first flowering: Data inadequate: first flowers (100%) recorded at 16 years.

Height (30 records): 90% 0.2-1 m tall, 10% 1-2 m tall.

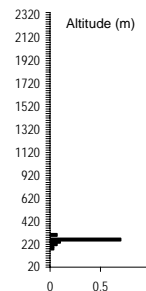
Pollinators : No data.

Detailed Pollinators (1 record): Anthochorid/Reduviid Bug.

Habitat:

Distance to Ocean (30 records): 100% inland - further than 2 km from coast.

Altitude (30 records): 160 - 300 m; 240 *lq* - 260 *med* - 260 *uq*m.

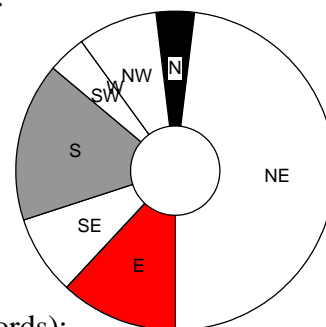


Landform (30 records): 100% deep soil.

Slope (30 records): 47% steep incline, 30% gentle incline, 23% hill top.

Aspect (25 records):

40% East, 32% North, 22% South, 6% West.



Soil Type (30 records): 80% clayey, 10% gravelly, 7% sandy, 3% loamy.

Soil Colour (30 records): 70% brown, 23% orange, 7% grey.

Geology (29 records): 93% shale, 3% sandstone, 3% silcrete or ferricrete.

Vegetation (30 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Critically Endangered B1b(i,ii)c(iv).

Occurrence (Fynbos): 8 km² with 0% conserved and 57% lost; **Occupancy:** 11 km² with 0% conserved and 58% lost. Fragmentation index: meaningless.

Nature Reserves (30 records): 3% in nature reserves - unconserved.

Habitat destruction (30 records): 87% extensive natural habitat, 10% islands, 3% corridors.

Alien Invasive Species (29 records): 59% *Pinus*, 24% none, 14% Fabaceae (chiefly alien *Acacia*), 3% *Hakea*.

Alien Density (29 records): 24% alien-free, 72% sparse, 3% dense.

Cultivation & Utilization:

Picking (23 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlassers Notes:

These 2 plants occur within 3 m of edge of old orchards - now been removed and replaced with vineyards their future seems bleak. Natural vegetation exists on steep slope to south but no plants seen there. Plant closest to field damaged by earth-moving machines. (NAHY5031201);
If a dam on arieskraal or the palmiet r is built they need a clay core - this hill is one of the best sites of suitable clay for dams in the area - as an engineer - any use of the area for a borrow pit will eradicate this species. (PVR92091204);

Confusing Species: None, although in bud resembles a *Serruria* - a herbarium specimen in the Compton herbarium was identified as a new *Serruria*.
Records of identification queries = 1

Variation and Taxonomy: Add.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus spicatus (Bergius) Kuntze 1766, 1891
Kogelberg Scepter

Other Common Names: Samphire-leaf
Paranomus, *Perdebos*.

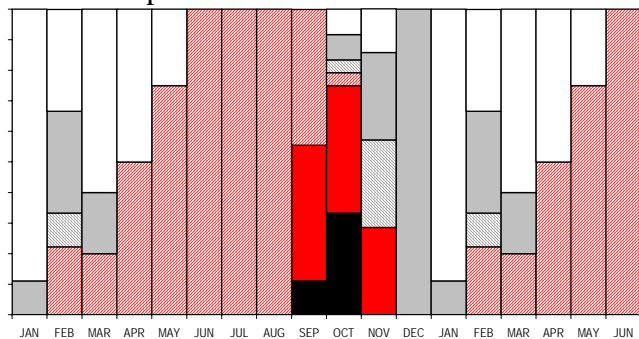
Other Scientific Names: *crithmifolius* Salisb.
ex Knight 1809.

87 Records

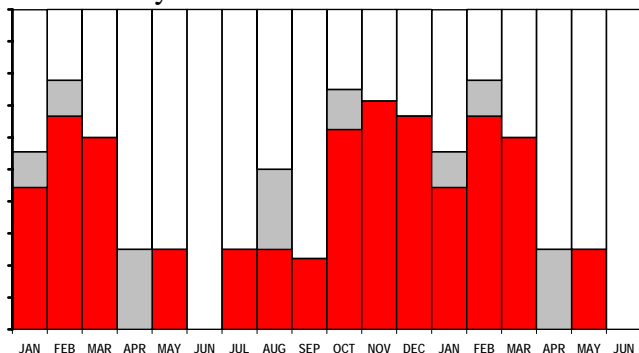
Population (87 records): 17% Common,
55% Frequent, 28% Rare.

Dispersion (75 records): 51% clumped,
48% variable, 1% widespread.

Flowering (87 records with: Jan 9, Feb 9, Mar 5, Apr 4, May 8, Jun 1, Jul 4, Aug 4, Sep 9, Oct 24, Nov 7, Dec 3): Buds from Feb to Sep; Flowering from Sep to Nov; Peak Flowering from Oct; Over from Nov; Fruit from Nov to Dec and Feb to Mar; Nothing from Jan to May. Peak levels at 100% in Jun to Sep. Historically recorded as flowering from Sep to Nov.



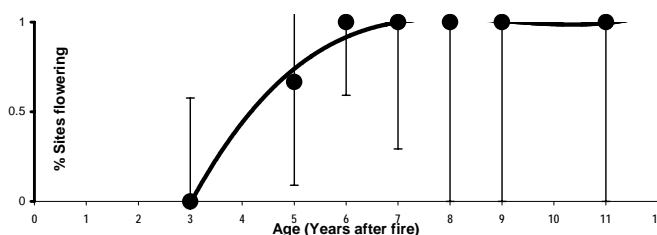
Growth (87 records with: Jan 9, Feb 9, Mar 5, Apr 4, May 8, Jun 1, Jul 4, Aug 4, Sep 9, Oct 24, Nov 7, Dec 3): Much from Jul to Mar and May; Rare from Apr and Aug.; None from all year. Peak levels at 78% in Feb.



Seedlings (30 records): All without any seedlings present.

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

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



Height (87 records): 5% 0-0.2 m tall, 94% 0.2-1 m tall, 1% 1-2 m tall.

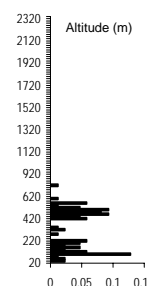
Pollinators (2 records): 50% bees or wasps, 50% beetles.

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

Habitat:

Distance to Ocean (86 records): 77% coastal - less than 2 km from coast.

Altitude (86 records): 20 - 720 m;
120 *lq* - 340 *med* - 480 *uq* m.

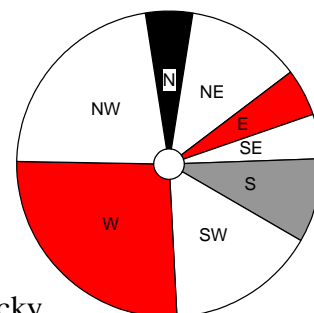


Landform (85 records): 81% deep soil, 14% shallow soil, 5% rocky outcrops.

Slope (85 records): 64% gentle incline, 35% steep incline, 1% hill top.

Aspect (81 records):

44% West,
25% North,
17% South,
14% East.



Soil Type (83 records):

55% sandy,
18% loamy,
16% clayey,
6% gravelly, 5% rocky.

Soil Colour (84 records): 56% brown, 33% grey, 8% orange, 1% white, 1% red.

Geology (83 records): 76% sandstone, 17% shale, 4% conglomerate, 4% granite.

Vegetation (85 records): 99% shrubland, 1% grassland.

Conservation Status and Threat:

Red Data List Status: Near Threatened
B1a(i)b(iv)c(iv).

Occurrence (Fynbos): 159 km² with 28% conserved and 13% lost; **Occupancy:** 74 km² with 17% conserved and 8% lost.
Fragmentation index: 39%.

Nature Reserves (86 records): 19% in nature reserves - inadequately conserved.

Habitat destruction (84 records): 96% extensive natural habitat, 2% road verges, 1% naturally fragmented habitats.

Alien Invasive Species (82 records): 35% *Pinus*, 27% Fabaceae (chiefly alien *Acacia*), 23% none, 11% Myrtaceae, 4% *Hakea*.

Alien Density (82 records): 23% alien-free, 63% sparse, 13% abundant.

Cultivation & Utilization:**Picking** (60 records): 100% no sign of picking.**Cultivation Status:** No noted cultivation.**Atlassers Notes:**

Pollinators: Beetles - ?*Diaplochelus* – shiney,
black, woolly legs - very active
(PAP92091101).

Confusing Species: Quite distinct.

Records of identification queries = 6

Records of corrected identification queries = 1.

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

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus tomentosus (Phill. & Hutch.) N.E.Br. 1912, 1933
Hairy-leaf Scepter

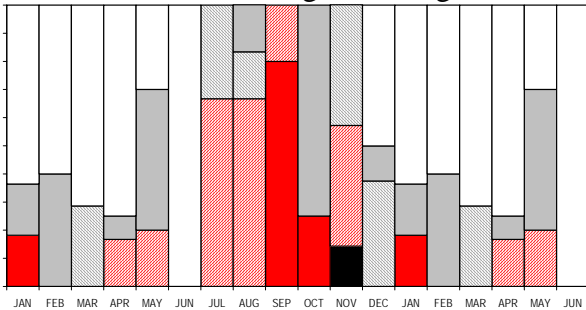
Other Common Names: None known.
Other Scientific Names: *None*.

86 Records

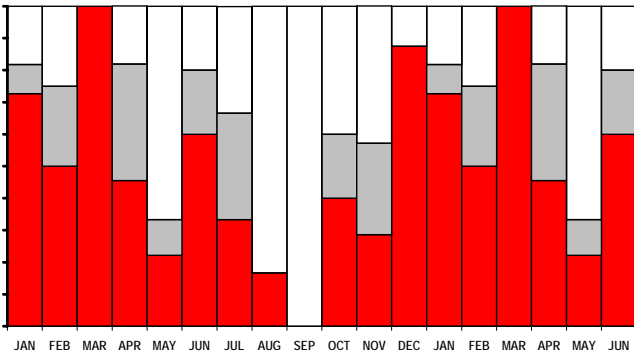
Population (86 records): 23% Common, 45% Frequent, 29% Rare, 2% Extinct.

Dispersion (70 records): 57% variable, 33% clumped, 9% widespread, 1% evenly distributed.

Flowering (83 records with: Jan 11, Feb 5, Mar 7, Apr 12, May 10, Jun 5, Jul 3, Aug 6, Sep 5, Oct 4, Nov 7, Dec 8): Buds from Jul to Sep and Nov; Flowering from Sep to Oct; Peak Flowering from Nov; Over from Mar, Jul, Nov to Dec; Fruit from Feb, May and Oct; Nothing from Dec to Jun. Peak levels at 100% in Jul, Sep and Nov. Historically recorded as flowering from Aug to Oct.



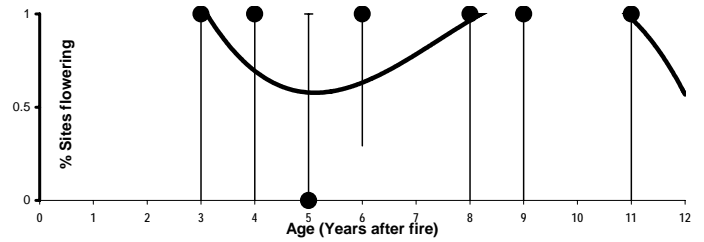
Growth (81 records with: Jan 11, Feb 4, Mar 7, Apr 11, May 9, Jun 5, Jul 3, Aug 6, Sep 5, Oct 5, Nov 7, Dec 8): Much from Oct to Jul; Rare from Feb, Apr, Jul, Oct and Nov; None from Feb, May to Nov. Peak levels at 100% in Mar.



Seedlings (38 records): Absent in 79%: fewer seedlings than prefire adults in 2 cases, and more in 2 cases. Seedlings found in Mar 2 - Apr 1 - Sep 1.

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

Age to first flowering: First flowers recorded at 3 years, 50% estimated at 3-5 years, and 100% recorded at 6 years.



Height (84 records): 4% 0-0.2 m tall, 44% 0.2-1 m tall, 40% 1-2 m tall, 12% 2-5 m tall.

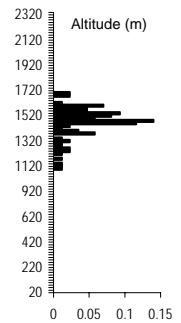
Pollinators (2 records): 100% bees or wasps.

Detailed Pollinators (2 records): Carpenter Bee.

Habitat:

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

Altitude (86 records): 980 - 1600 m; 1280 *lq* - 1380 *med* - 1400 *uq*m.



Landform (86 records): 55% shallow soil, 26% deep soil, 20% rocky outcrops.

Slope (86 records): 40% steep incline, 37% gentle incline, 15% hill top, 7% platform, 1% cliff.

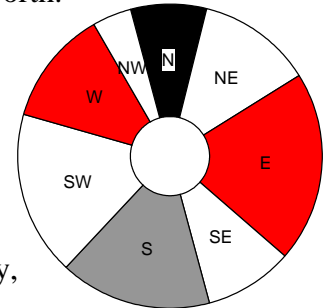
Aspect (74 records): 33% East, 29% South, 23% West, 15% North.

Soil Type (86 records): 53% sandy, 27% rocky, 14% gravelly, 5% loamy, 1% clayey.

Soil Colour (86 records): 49% grey, 35% brown, 8% yellow, 3% white, 3% orange, 1% black.

Geology (85 records): 95% sandstone, 2% shale, 1% conglomerate, 1% Tertiary sands.

Vegetation (85 records): 100% shrubland.



Conservation Status and Threat:

Red Data List Status: Near Threatened A3c. Occurrence (Fynbos): 206 km² with 63% conserved and 3% lost; Occupancy: 84 km² with 70% conserved and 1% lost. Fragmentation index: 37%.

Nature Reserves (86 records): 76% in nature reserves - well conserved.

Habitat destruction (86 records): 99% extensive natural habitat, 1% naturally fragmented habitats.

Alien Invasive Species (74 records): 96% none, 3% *Pinus*, 1% other aliens.

Alien Density (74 records): 96% alien-free, 3% sparse, 1% abundant.

Cultivation & Utilization:

Picking (48 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlassers Notes:

Several dead plants in plot (JIDY0012804);

Confusing Species: One instance of *P. bracteolaris*, but brown hairs are quite distinct, even on juveniles.

Records of identification queries = 11

Records of corrected identification queries = 1.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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MERGEFORMAT \d

Paranomus capitatus (R. Br.) Kuntze 1810, 1891

Fine-leaf Scepter

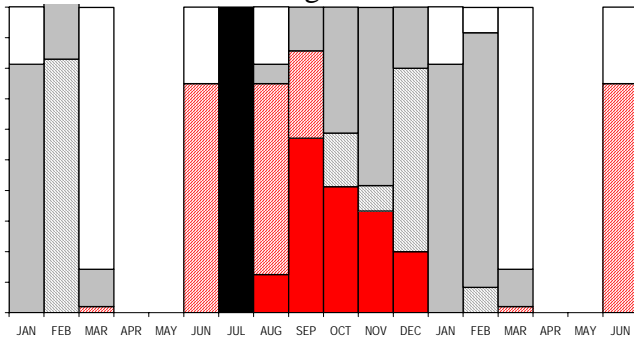
Other Common Names: None known.
Other Scientific Names: *None*.

148 Records

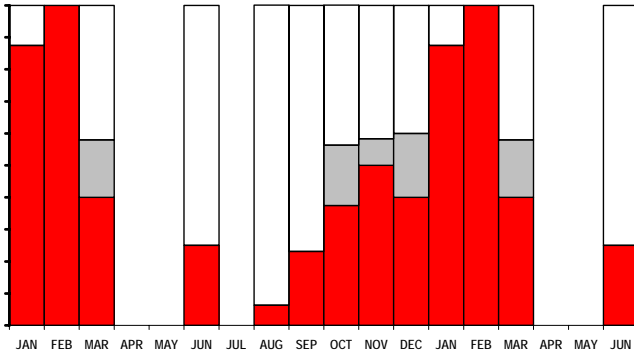
Population (147 records): 13% Common, 54% Frequent, 32% Rare, 0.7% Extinct.

Dispersion (127 records): 54% clumped, 45% variable, 2% widespread.

Flowering (146 records with: Jan 16, Feb 12, Mar 49, Apr 0, May 0, Jun 4, Jul 1, Aug 16, Sep 14, Oct 17, Nov 12, Dec 5): Buds from Jun to Sep; Flowering from Sep to Dec; Peak Flowering from Jul; Over from Dec; Fruit from Oct to Feb; Nothing from Mar and Jun. Peak levels at 82% in Sep. Historically recorded as flowering from Oct to Dec.



Growth (144 records with: Jan 16, Feb 12, Mar 50, Apr 0, May 0, Jun 4, Jul 0, Aug 16, Sep 13, Oct 16, Nov 12, Dec 5): Much from Sep to Jun; Rare from Dec; None from Mar to Dec. Peak levels at 100% in Feb.



Seedlings (51 records): Absent in 73%: fewer seedlings than prefire adults in 4 cases, and more in 3 cases. Seedlings found in Mar (7).

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

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



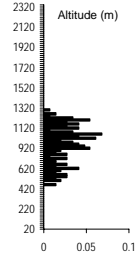
Height (147 records): 22% 0-0.2 m tall, 72% 0.2-1 m tall, 5% 1-2 m tall.

Pollinators (5 records): 100% beetles, .
Detailed Pollinators (7 records): Monkey Beetle (4), Thrip, Protea Itch Mite, Flower Beetle.

Habitat:

Distance to Ocean (147 records): 100% inland - further than 2 km from coast.

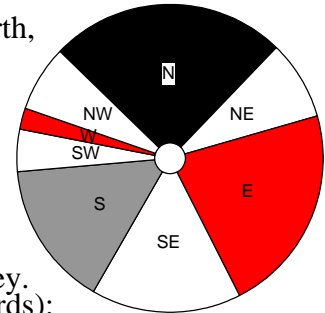
Altitude (147 records): 440 - 1200 m; 700_{lq} - 860_{med} - 960_{uq}m.



Landform (146 records): 73% deep soil, 21% shallow soil, 6% rocky outcrops, .

Slope (147 records): 50% gentle incline, 44% steep incline, 5% hill top, 1% platform.

Aspect (132 records): 36% East, 31% North, 26% South, 8% West.



Soil Type (145 records): 47% sandy, 28% loamy, 16% gravelly, 7% rocky, 3% clayey.

Soil Colour (145 records): 54% grey, 37% brown, 4% white, 2% yellow, 2% orange, 0.7% red.

Geology (144 records): 77% sandstone, 22% shale, 0.7% silcrete or ferricrete, .

Vegetation (147 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Least Concern. Occurrence (Fynbos): 687 km² with 34% conserved and 4% lost; Occupancy: 142 km² with 21% conserved and 2% lost. Fragmentation index: 14%.

Nature Reserves (147 records): 18% in nature reserves - inadequately conserved.

Habitat destruction (145 records): 97% extensive natural habitat, 3% islands, 0.7% naturally linear habitats.

Alien Invasive Species (142 records): 53% *Hakea*, 26% none, 18% *Pinus*, 3% Fabaceae (chiefly alien *Acacia*).

Alien Density (141 records): 26% alien-free, 67% sparse, 6% abundant, 1% dense.

Cultivation & Utilization:

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

Cultivation Status: No noted cultivation.

Atlasers Notes: None.

Confusing Species: Confused with *Serruria* (*sp* and *dodii*) and *P. dispersus*.

Records of identification queries = 12.

Records of corrected identification queries = 6.

Variation and Taxonomy: An eastern and western race area known. A single stemmed, erect form.

Distribution: Add.

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

Paranomus centaureoides Levyns 1970
Ladismith Scepter

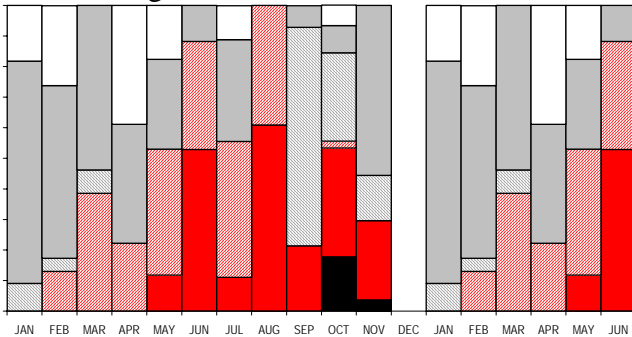
Other Common Names: None known.
Other Scientific Names: *None*.

223 Records

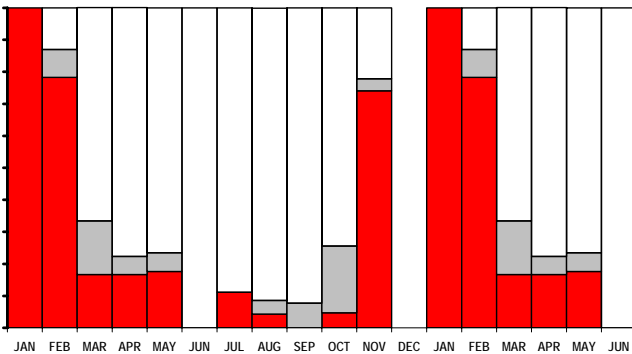
Population (216 records): 4% Common, 66% Frequent, 30% Rare.

Dispersion (181 records): 49% variable, 49% clumped, 2% widespread, 1% evenly distributed.

Flowering (217 records with: Jan 11, Feb 23, Mar 13, Apr 18, May 17, Jun 17, Jul 9, Aug 23, Sep 14, Oct 45, Nov 27, Dec 0): Buds from Mar to Aug; Flowering from Jun and Aug to Nov; Peak Flowering from Oct; Over from Sep to Oct; Fruit from Nov to May and Jul; Nothing from Feb and. Peak levels at 100% in Aug. Historically recorded as flowering from Jun to Nov.



Growth (213 records with: Jan 11, Feb 23, Mar 12, Apr 18, May 17, Jun 17, Jul 9, Aug 23, Sep 13, Oct 43, Nov 27, Dec 0): Much from Nov to Feb; Rare from Oct; None from Mar to Nov. Peak levels at 100% in Jan.



Seedlings (11 records): Absent in 82%; fewer seedlings than prefire adults in 1 case. Seedlings found in Jul.

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

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



Height (215 records): 4% 0-0.2 m tall, 71% 0.2-1 m tall, 25% 1-2 m tall.

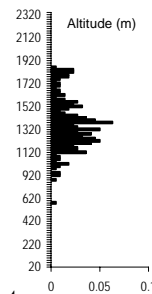
Pollinators : No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (221 records): 100% inland - further than 2 km from coast.

Altitude (221 records): 560 - 1760 m; 1100 *lq* - 1220 *med* - 1320 *uq*m.



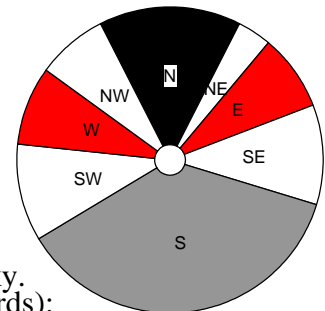
Landform (220 records):

82% shallow soil, 14% deep soil, 4% rocky outcrops.

Slope (220 records): 60% steep incline, 34% gentle incline, 3% cliff, 1% hill top, 1% platform, 0.5% valley bottom.

Aspect (214 records):

47% South, 21% North, 17% West, 15% East.



Soil Type (219 records):

83% sandy, 9% gravelly, 6% loamy, 2% rocky.

Soil Colour (217 records): 59% brown, 31% grey, 4% black, 4% orange, 2% yellow, 0.5% white, 0.5% red.

Geology (218 records): 99% sandstone, 0.9% shale.

Vegetation (220 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Near Threatened A4c. Occurrence (Fynbos): 405 km² with 45% conserved and 0% lost; Occupancy: 201 km² with 36% conserved and 1% lost. Fragmentation index: 45%.

Nature Reserves (221 records): 61% in nature reserves - well conserved.

Habitat destruction (210 records): 99% extensive natural habitat, 0.5% patches, 0.5% islands.

Alien Invasive Species (213 records): 98% none, 2% *Hakea*, 0.5% Fabaceae (chiefly alien *Acacia*).

Alien Density (213 records): 98% alien-free, 2% sparse.

Cultivation & Utilization:

Picking (186 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes: None.

Confusing Species: A few misidentifications with *P. dregeii*.

Records of identification queries = 6

Records of corrected identification queries = 2.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus dregei (Buek. ex Meisn.) Kuntze 1856, 1891
Scented Scepter

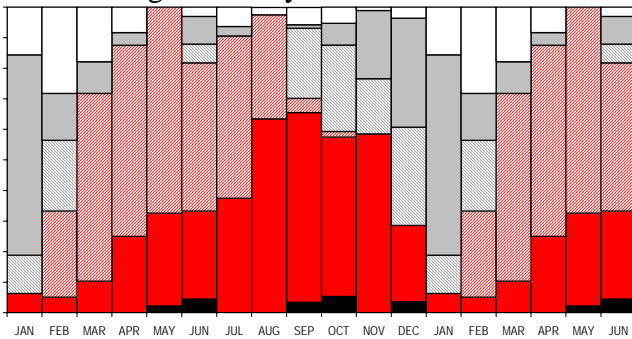
Other Common Names: None known.
Other Scientific Names: *marlothii* (Phill) 1915.

679 Records

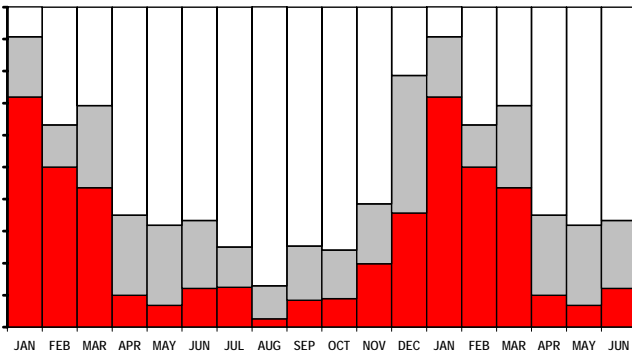
Population (676 records): 0.1% Abundant, 11% Common, 66% Frequent, 23% Rare.

Dispersion (610 records): 49% variable, 32% clumped, 12% widespread, 8% evenly distributed.

Flowering (665 records with: Jan 32, Feb 39, Mar 39, Apr 48, May 46, Jun 66, Jul 32, Aug 41, Sep 87, Oct 113, Nov 94, Dec 28): Buds from Feb to Aug; Flowering from Apr to Dec; Peak Flowering not significant; Over from Feb, Sep to Oct and Dec; Fruit from Nov to Jan; Nothing from Feb. Peak levels at 100% in May. Historically recorded as flowering from May to Oct.



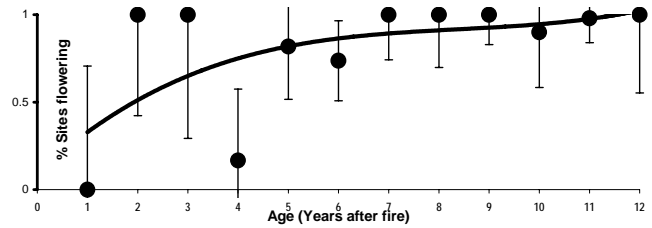
Growth (644 records with: Jan 32, Feb 38, Mar 39, Apr 40, May 44, Jun 66, Jul 32, Aug 39, Sep 83, Oct 112, Nov 91, Dec 28): Much from Nov to Mar; Rare from Mar to Jun and Dec; None from Feb to Dec 21. Peak levels at 91% in Jan.



Seedlings (278 records): Absent in 92%: fewer seedlings than prefire adults in 7 cases, and more in 4 cases. Seedlings found in Apr, May, Jun (3), Aug (2) and Sep (4).

Fire Survival (29 records): 59% survived by seedlings only, 34% escaped fires in fire-safe areas, 7% eliminated from the area by fires.

Age at first flowering: First flowers recorded at 1 years, 50% estimated at 4-5 years, and 100% recorded at 8 years.



Height (674 records): 9% 0-0.2 m tall, 73% 0.2-1 m tall, 18% 1-2 m tall, 0.1% 2-5 m tall.

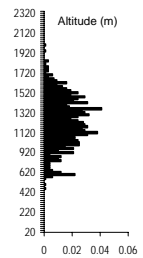
Pollinators (5 records): 60% beetles, 20% butterflies or moths, 20% bees or wasps.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (678 records): 100% inland - further than 2 km from coast.

Altitude (678 records): 440 - 1900 m; 940_{lq} - 1120_{med} - 1260_{uq}m.



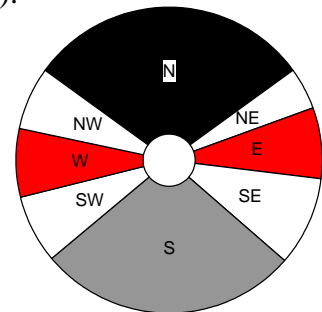
Landform (676 records):

63% shallow soil, 27% deep soil, 10% rocky outcrops, 0.1% swamp.

Slope (677 records): 44% steep incline, 40% gentle incline, 12% hill top, 3% platform, 1% cliff, 0.9% valley bottom.

Aspect (594 records):

37% South, 36% North, 14% West, 13% East.



Soil Type (673 records):

44% sandy, 26% loamy, 19% rocky, 11% gravelly, 0.3% clayey, 0.1% peaty.

Soil Colour (671 records): 46% grey, 41% brown, 7% black, 3% yellow, 3% orange, 0.7% white.

Geology (672 records): 97% sandstone, 2% shale, 0.3% conglomerate, 0.1% granite, 0.1% silcrete or ferricrete.

Vegetation (677 records): 98% shrubland, 1% wooded grassland, 0.1% grassland.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 4 305 km² with 43% conserved and 2% lost; **Occupancy:** 721 km² with 58% conserved and 1% lost. **Fragmentation index:** 6%.

Nature Reserves (678 records): 69% in nature reserves - well conserved.

Habitat destruction (654 records): 98% extensive natural habitat, 0.8% islands, 0.5% naturally linear habitats, 0.2% road verges, 0.2% corridors.

Alien Invasive Species (622 records): 78% none, 13% *Hakea*, 9% *Pinus*,

0.2% Fabaceae (chiefly alien *Acacia*),
0.2% annual alien grasses.

Alien Density (598 records): 81% alien-free,
17% sparse, 1% abundant, 0.3% dense.

Cultivation & Utilization:

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

Cultivation Status: No noted cultivation.

Atlassers Notes:

Stand with a very strong caramel-vanilla smell
(AGRY3100805); Smells like caramel
(AMMY3100801); Sweet scented flowers
(OUTY0102801);

Also 2 dead specimens (AKS95111605); Many
dead plants - only just over 10 left
(AWA99032601); Looked very dead - could
find no others (OUT97030810); Die back
(OUT99061203);

Stem of one plant: 70-80 mm (DOA95101113);

Confusing Species: Considerable confusion
arose from OUT (and associates, chiefly
AWA) confusing this with *P. esterhuyseniae*
and *P. dispersus*. One atlasser TDJ
consistently atlassed this as *Leucadendron*
dregei.

Records of identification queries = 96.

Records of corrected identification queries = 69.

Variation and Taxonomy: Young plants have
divided leaves, but older plants may be
exclusively flat leaved. In the Swartberg
Pass area the leaves are typically flat and
undivided – this was named *P. marlothii*.
Atlassers did not map the distribution of the
flat-leaf form.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus esterhuyensiae Levyns 1970
Kouga Scepter

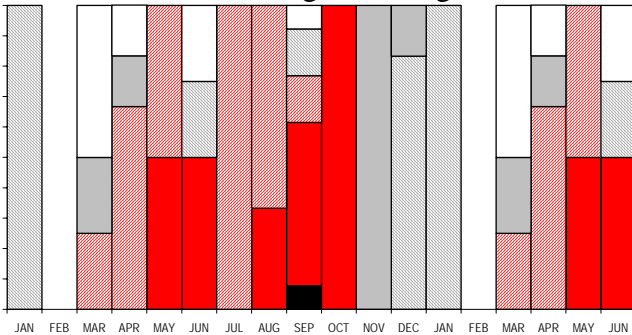
Other Common Names: None known.
Other Scientific Names: *None*.

61 Records

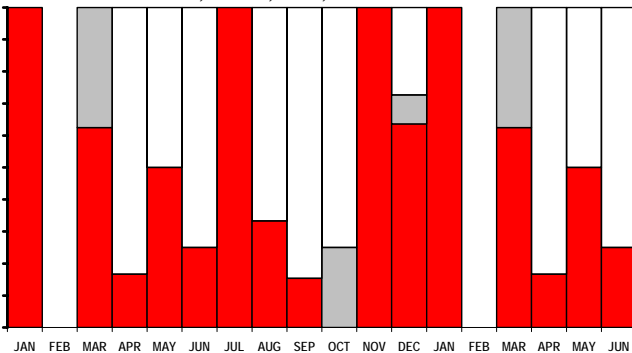
Population (60 records): 18% Common, 67% Frequent, 15% Rare.

Dispersion (58 records): 47% variable, 40% clumped, 7% evenly distributed, 7% widespread.

Flowering (60 records with: Jan 6, Feb 0, Mar 8, Apr 6, May 2, Jun 4, Jul 1, Aug 3, Sep 13, Oct 4, Nov 1, Dec 12): Buds from Mar to May and Jul to Aug; Flowering from May to Oct; Peak Flowering not significant; Over from Dec to Jan and Jun; Fruit from Mar and Nov; Nothing from Mar to Jun. Peak levels at 100% in Jul to Aug and Oct. Historically recorded as flowering from Aug to Nov.



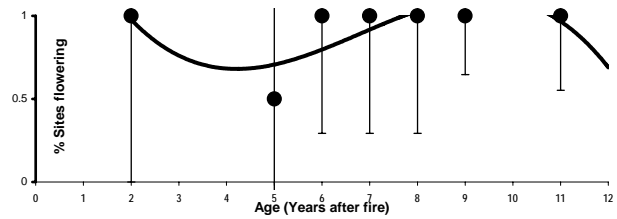
Growth (59 records with: Jan 6, Feb 0, Mar 8, Apr 6, May 2, Jun 4, Jul 1, Aug 3, Sep 13, Oct 4, Nov 1, Dec 11): Much from Nov to Mar and May to Aug; Rare from Mar and Oct; None from Apr to Dec. Peak levels at 100% in Jan, Mar, Jul, and Nov.



Seedlings (26 records): Absent in 92%; more seedlings than prefire adults in 1 case. Seedlings found in Dec.

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

Age to first flowering: First flowers recorded at 2 years, 50% estimated at 4-5 years, and 100% recorded at 6 years.



Height (60 records): 2% 0-0.2 m tall, 92% 0.2-1 m tall, 7% 1-2 m tall.

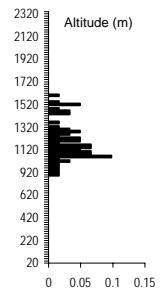
Pollinators: No data.

Detailed Pollinators: No additional data.

Habitat:

Distance to Ocean (61 records): 100% inland - further than 2 km from coast.

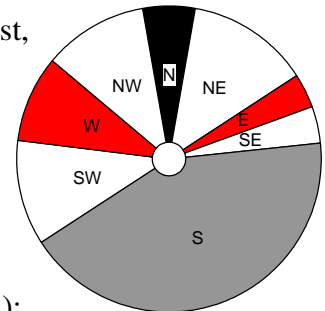
Altitude (61 records): 780 - 1500 m; 960_{lq} - 1040_{med} - 1100_{uq}m.



Landform (60 records): 60% shallow soil, 38% deep soil, 2% rocky outcrops.

Slope (60 records): 62% steep incline, 27% gentle incline, 8% hill top, 2% cliff, 2% valley bottom.

Aspect (54 records): 50% South, 19% West, 19% North, 12% East.



Soil Type (59 records): 58% sandy, 27% loamy, 12% rocky, 3% gravelly.

Soil Colour (59 records): 63% grey, 31% brown, 3% orange, 2% yellow, 2% red.

Geology (61 records): 97% sandstone, 3% shale.

Vegetation (61 records): 95% shrubland, 3% grassland, 2% thicket.

Conservation Status and Threat:

Red Data List Status: Near Threatened A4c. Occurrence (Fynbos): 1 240 km² with 50% conserved and 3% lost; Occupancy: 109 km² with 69% conserved and 0% lost. Fragmentation index: 8%.

Nature Reserves (61 records): 75% in nature reserves - well conserved.

Habitat destruction (53 records): 89% extensive natural habitat, 11% naturally linear habitats.

Alien Invasive Species (56 records): 98% none, 2% *Hakea*.

Alien Density (56 records): 98% alien-free, 2% sparse.

Cultivation & Utilization:

Picking (34 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlasers Notes:

Paranomus I D by Jan Vlok: he says it has an unusually long neck - repeat visits could not relocate (OUT93051603);

Confusing Species: Confused occ. with *P. dregei*.

Records of identification queries = 6

Records of corrected identification queries = 3.

Variation and Taxonomy: A single record from the Outeniqua mountains has an unusually long stalk. No other variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus longicaulis Salisb. ex Kn. 1809

Exploding Baked Apple

Poppiesbos

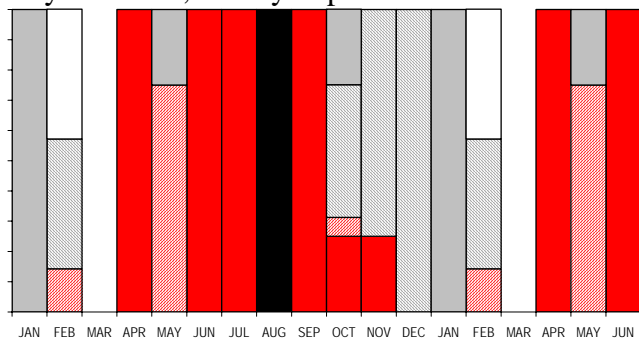
Other Common Names: Long-stem Paranomus, Woolly Scepter, *Poppies*.
Other Scientific Names: *diversifolius* RBr 1810.

47 Records

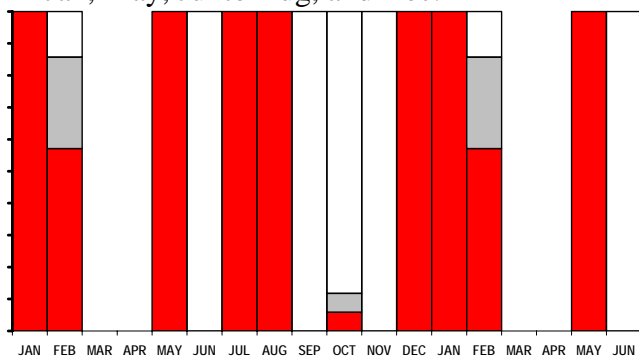
Population (47 records): 55% Common, 40% Frequent, 4% Rare.

Dispersion (47 records): 49% variable, 28% clumped, 19% evenly distributed, 4% widespread.

Flowering (46 records with: Jan 3, Feb 7, Mar 0, Apr 4, May 4, Jun 1, Jul 3, Aug 1, Sep 1, Oct 16, Nov 4, Dec 2): Buds from May; Flowering from Apr and Jun to Jul and Sep to Nov; Peak Flowering from Aug; Over from Feb and Oct to Dec; Fruit from Jan, May and Oct; Nothing from Feb. Peak levels at 100% in Apr and Jun to Sep. Historically recorded as flowering from all year round, mainly Sep to Dec.



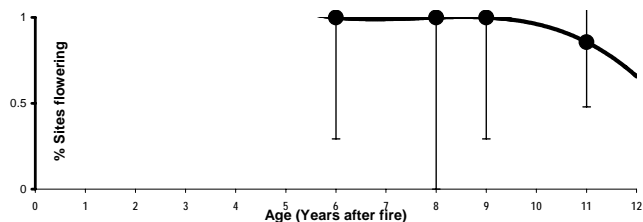
Growth (41 records with: Jan 3, Feb 7, Mar 0, Apr 0, May 4, Jun 1, Jul 1, Aug 1, Sep 1, Oct 17, Nov 4, Dec 2): Much from Dec to Feb, May, Jul to Aug; Rare from Feb; None from Jun and Sep to Nov. Peak levels at 100% in Jan, May, Jul to Aug, and Dec.



Seedlings (16 records): Absent in 63%: more seedlings than prefire adults in 3 cases. Seedlings found in Feb, Jul and Nov.

Fire Survival (6 records): 100% survived by seedlings only.

Age to first flowering: First flowers recorded at 6 years (the youngest with data), 50% estimated at 6 years, and 100% recorded at 6 years.



Height (47 records): 21% 0.2-1 m tall, 60% 1-2 m tall, 19% 2-5 m tall.

Pollinators (7 records): 43% bees or wasps, 43% beetles, 14% birds.

Detailed Pollinators (5 records): Monkey Beetle (2), Honey Bee (2), Orange-breasted Sunbird.

Habitat:

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

Altitude (47 records): 240 - 800 m; 400_{lq} - 460_{med} - 520_{uq}m.

Landform (47 records): 62% deep soil, 34% shallow soil, 4% rocky outcrops.

Slope (47 records): 51% gentle incline, 36% steep incline, 11% hill top, 2% platform.

Aspect (44 records): 82% North, 8% East, 8% West, 2% South.

Soil Type (46 records): 43% sandy, 35% gravelly, 15% loamy, 7% rocky.

Soil Colour (46 records): 74% grey, 22% brown, 4% white.

Geology (47 records): 98% sandstone, 2% silcrete or ferricrete.

Vegetation (47 records): 98% shrubland, 2% grassland.

Conservation Status and Threat:

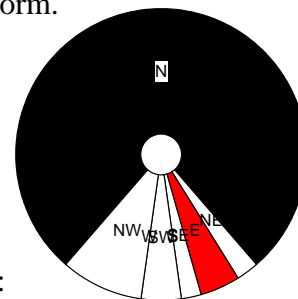
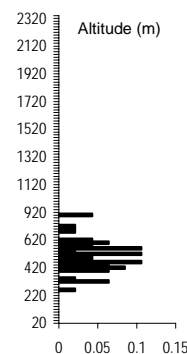
Red Data List Status: Vulnerable

B1a(ii)b(v)+2a(ii)b(v).
 Occurrence (Fynbos): 116 km² with 4% conserved and 8% lost; Occupancy: 43 km² with 0% conserved and 2% lost.
 Fragmentation index: 28%.

Nature Reserves (47 records): 0% in nature reserves - unconserved.

Habitat destruction (46 records): 100% extensive natural habitat.

Alien Invasive Species (44 records): 61% none, 34% *Hakea*, 5% Fabaceae (chiefly alien *Acacia*).



Alien Density (44 records): 61% alien-free, 30% sparse, 9% abundant.

Cultivation & Utilization:

Picking (31 records): 94% no sign of picking, 3% lightly picked, 3% severely picked.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Some heads eaten - bored in - by white caterpillars of moth type (AGRY0101347);

A great deal of picking on this farm! But it is not harmful to most species except *P. longicaulis* because very few seeds are dropped. We found 2 populations but the

one with 30 plants had no seedheads as the flowerheads were picked for florist or export (VJK99022704)

Confusing Species: None.

Records of identification queries = 1.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus adiantifolius Salisb. ex Kn.
Hairy-style Scepter

Other Common Names: Maiden-hair-leaf
Paranomus.

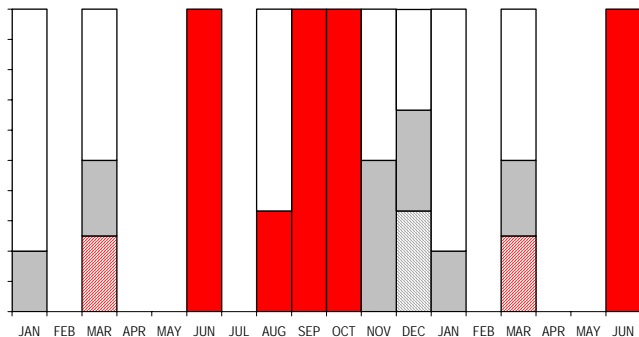
Other Scientific Names: *parvifolia* (RBr)
1810, *spatulatus* NEBr 1933.

24 Records

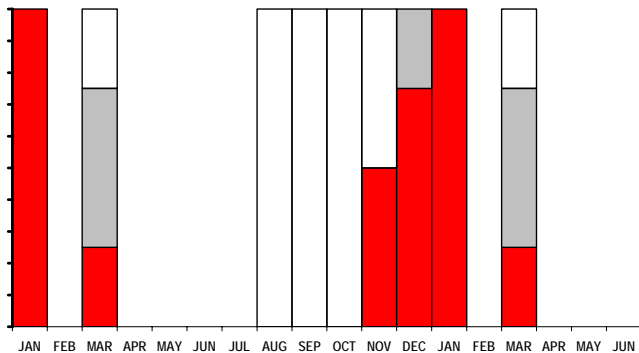
Population (24 records): 4% Common,
50% Frequent, 46% Rare.

Dispersion (18 records): 67% clumped,
33% variable.

Flowering (23 records with: Jan 5, Feb 0, Mar 4, Apr 0, May 0, Jun 1, Jul 0, Aug 3, Sep 4, Oct 1, Nov 2, Dec 3): Buds from Mar; Flowering from Jun to Oct; Peak Flowering not recorded; Over from Dec; Fruit from Nov to Mar; Nothing from Nov to Mar and Aug. Peak levels at 100% in Sep to Oct. Historically recorded as flowering from Sep to Nov.



Growth (23 records with: Jan 5, Feb 0, Mar 4, Apr 0, May 0, Jun 0, Jul 0, Aug 3, Sep 4, Oct 1, Nov 2, Dec 4): Much from Nov to Mar; Rare from Mar and Dec; None from Mar and Aug to Nov. Peak levels at 100% in Dec to Jan.



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 6 years, 50% estimated at 6 years, and 100% recorded at 6 years.



Height (24 records): 8% 0-0.2 m tall, 58% 0.2-1 m tall, 33% 1-2 m tall.

Pollinators (2 records): 100% beetles.
Detailed Pollinators (1 record): Monkey Beetle.

Habitat:

Distance to Ocean (23 records): 100% inland - further than 2 km from coast.

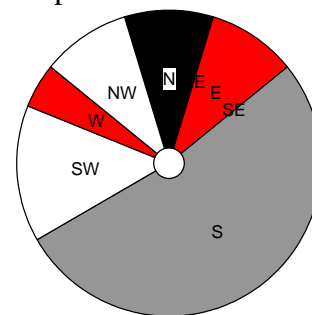
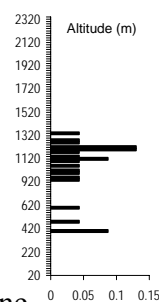
Altitude (23 records): 380 - 1240 m; 840 *lq* - 1020 *med* - 1100 *uq*m.

Landform (23 records): 83% deep soil, 13% shallow soil, 4% rocky outcrops.

Slope (23 records): 52% steep incline, 43% gentle incline, 4% platform.

Aspect (21 records):

60% South,
17% North,
14% West,
10% East.



Soil Type (23 records):

65% sandy,
22% loamy,
9% gravelly,
4% peaty.

Soil Colour (21 records): 81% grey, 10% brown, 5% black, 5% yellow.

Geology (23 records): 91% sandstone, 9% shale.

Vegetation (23 records): 100% shrubland.

Conservation Status and Threat:

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

Occurrence (Fynbos): 125 km² with 26% conserved and 14% lost; **Occupancy:** 20 km² with 28% conserved and 3% lost. **Fragmentation index:** 12%.

Nature Reserves (23 records): 9% in nature reserves - inadequately conserved.

Habitat destruction (23 records): 96% extensive natural habitat, 4% naturally linear habitats.

Alien Invasive Species (22 records): 41% *Hakea*, 32% none, 27% *Pinus*.

Alien Density (22 records): 32% alien-free, 68% sparse.

Cultivation & Utilization:

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

Atlassers Notes:

Some with up to 35 heads per bush
(AGR99092008);
About one third of the plants dead! Some 1/3 of
all [dead and live] have flowered
(APE96012815); At least 3 plants in the
colony dead (PMRY0012302); Plants in 3
clumps were counted most of which
flowered for the first time in 1995 and some
of which were already dying of unknown
causes (SHR96012801);
Also crabspider on flowerheads
(AGRY1101908);

Confusing Species: None.
Records of identification queries = 2
Records of corrected identification queries = 1.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus reflexus (Phill. & Hutch.) Fourc. 1912, 1933
Van Staden's Scepter

Other Common Names: Green Scepter,
Perdebos.

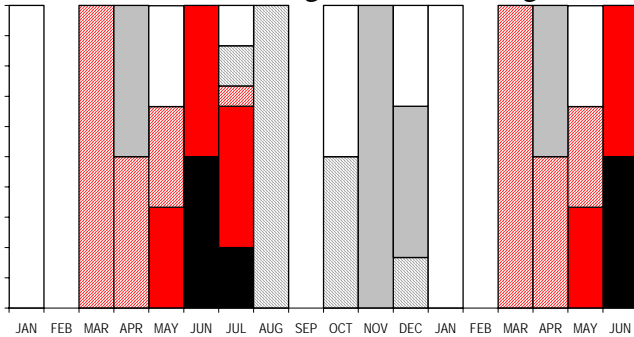
Other Scientific Names: *None.*

42 Records

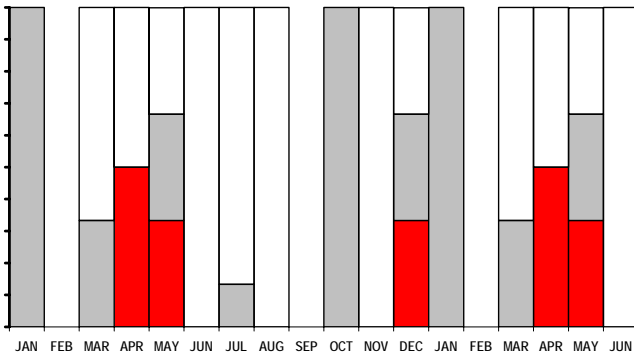
Population (40 records): 18% Common,
 50% Frequent, 33% Rare.

Dispersion (39 records): 51% variable,
 46% clumped, 3% evenly distributed.

Flowering (41 records with: Jan 1, Feb 0, Mar 3, Apr 2, May 6, Jun 2, Jul 15, Aug 2, Sep 0, Oct 2, Nov 2, Dec 6): Buds from Mar to May; Flowering from May to Jul; Peak Flowering from Jun to Jul; Over from Aug to Oct; Fruit from Apr and Nov to Dec; Nothing from Dec to Jan and May and Oct. Peak levels at 100% in Jun. Historically recorded as flowering from Jun to Aug.



Growth (41 records with: Jan 1, Feb 0, Mar 3, Apr 2, May 6, Jun 2, Jul 15, Aug 2, Sep 0, Oct 2, Nov 2, Dec 6): Much from Apr to May and Dec; Rare from Jan, Mar, May, Oct and Dec; None from Mar to Aug and Nov to Dec. Peak levels at 100% in Jan and Oct.



Seedlings (31 records): All without any seedlings present.

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

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



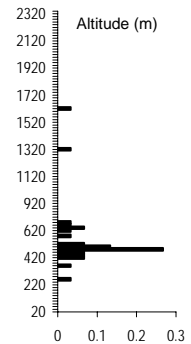
Height (41 records): 2% 0-0.2 m tall, 49% 0.2-1 m tall, 49% 1-2 m tall.

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

Habitat:

Distance to Ocean (28 records): 100% inland - further than 2 km from coast.

Altitude (28 records): 240 - 1520 m; 460 *lq* - 480 *med* - 480 *uqm*.



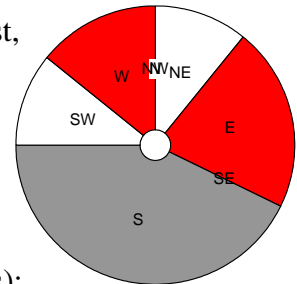
Landform (28 records):

79% deep soil, 18% shallow soil, 4% rocky outcrops.

Slope (28 records): 50% gentle incline, 39% steep incline, 7% platform, 4% hill top.

Aspect (26 records):

50% South, 27% East, 19% West, 4% North.



Soil Type (28 records):

75% loamy, 18% sandy, 7% rocky.

Soil Colour (28 records):

50% brown, 46% grey, 4% black.

Geology (28 records): 100% sandstone.

Vegetation (28 records): 71% shrubland, 21% plantations, 7% grassland.

Conservation Status and Threat:

Red Data List Status: Endangered

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

Occurrence (Fynbos): 605 km² with 70% conserved and 21% lost; Occupancy: 34 km² with 78% conserved and 38% lost.

Fragmentation index: 5%.

Nature Reserves (28 records): 71% in nature reserves - well conserved.

Habitat destruction (28 records):

96% extensive natural habitat, 4% islands.

Alien Invasive Species (26 records):

50% *Pinus*, 23% *Hakea*, 15% none, 8% Fabaceae (chiefly alien *Acacia*), 4% Myrtaceae.

Alien Density (26 records): 15% alien-free, 62% sparse, 23% dense.

Cultivation & Utilization:

Picking (35 records): 100% no sign of picking.
Cultivation Status: Plantings - 2 records (5%).

Atlassers Notes:

Smaller than in guide (MCG97052501).

Confusing Species: None.

Records of identification queries = 3

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus roodebergensis (Compton) Levyns 1933, 1970
Honey-scented Scepter
Rooihoud

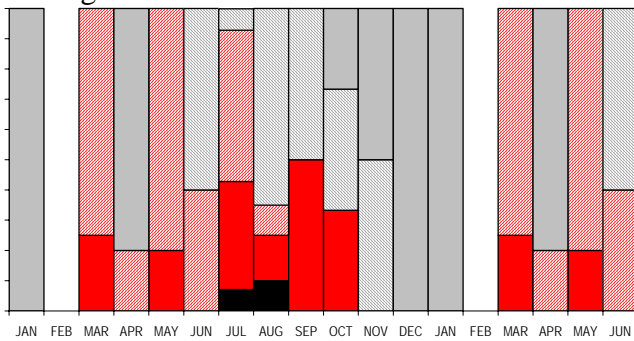
Other Common Names: *Rooihond*.
Other Scientific Names: *None*.

104 Records

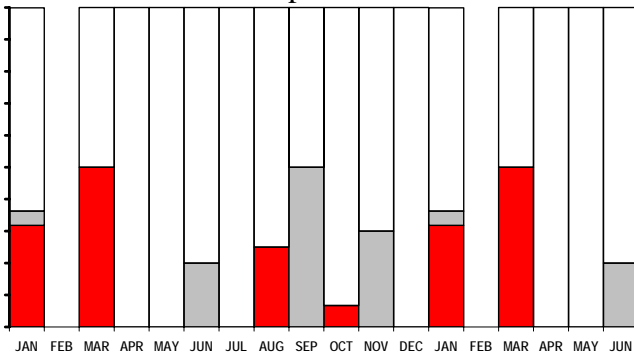
Population (104 records): 13% Common, 73% Frequent, 14% Rare.

Dispersion (99 records): 81% variable, 17% clumped, 2% evenly distributed.

Flowering (104 records with: Jan 22, Feb 0, Mar 4, Apr 5, May 5, Jun 5, Jul 14, Aug 20, Sep 2, Oct 15, Nov 10, Dec 2): Buds from Mar to Jul; Flowering from Mar, May, Jul and Sep to Oct; Peak Flowering not significant; Over from Jun and Aug to Nov; Fruit from Oct to Jan and Apr; Nothing not recorded. Peak levels at 100% in May to Sep. Historically recorded as flowering from Aug to Oct.



Growth (104 records with: Jan 22, Feb 0, Mar 4, Apr 5, May 5, Jun 5, Jul 14, Aug 20, Sep 2, Oct 15, Nov 10, Dec 2): Much from Jan to Mar and Aug; Rare from Jun, Sep and Nov; None from all year round. Peak levels at 50% in Mar and Sep.



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

Fire Survival : No data.

Age to first flowering: First flowers (100%) recorded at 6 years, no earlier data.



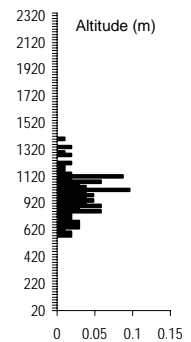
Height (104 records): 17% 0.2-1 m tall, 83% 1-2 m tall.

Pollinators (3 records): 67% beetles, 33% flies.
Detailed Pollinators: No additional data.

Habitat:

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

Altitude (104 records): 560 - 1300 m; 760 *lq* - 880 *med* - 940 *uq*m.

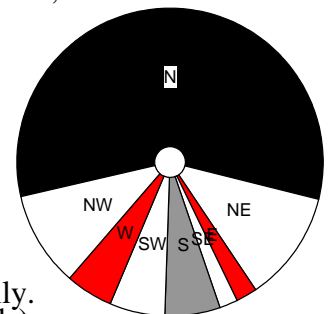


Landform (104 records): 81% shallow soil, 16% deep soil, 3% rocky outcrops.

Slope (104 records): 66% steep incline, 28% gentle incline, 3% hill top, 2% platform, 1.0% cliff.

Aspect (101 records):

68% North, 13% West, 10% South, 9% East.



Soil Type (104 records): 79% sandy, 12% loamy, 7% rocky, 3% gravelly.

Soil Colour (104 records): 49% grey, 42% brown, 4% orange, 3% yellow, 2% red.

Geology (104 records): 95% sandstone, 5% shale.

Vegetation (104 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Least Concern.

Occurrence (Fynbos): 390 km² with 42% conserved and 0% lost; Occupancy: 129 km² with 33% conserved and 0% lost. Fragmentation index: 21%.

Nature Reserves (104 records): 56% in nature reserves - well conserved.

Habitat destruction (103 records): 100% extensive natural habitat.

Alien Invasive Species (104 records): 98% none, 2% *Hakea*.

Alien Density (104 records): 98% alien-free, 2% sparse.

Cultivation & Utilization:

Picking (101 records): 100% no sign of picking.

Cultivation Status: No noted cultivation.

Atlassers Notes:

Flowering after good local rains

(NAH95033101);

Senescent (SHR98092702); Plants old and tatty
looking - very old dry veld

(WMP99031301).

Confusing Species: No confusing species.

Records of identification queries = 1.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus sceptrum-gustavianus (Sparman) Hylander 1777, 1954
King-Gustav's Scepter
Septerplumbos

Other Common Names: Bottlebrush, Scepter-like *Paranomus*, Sceptre, White Sceptre, *Perdebos*.

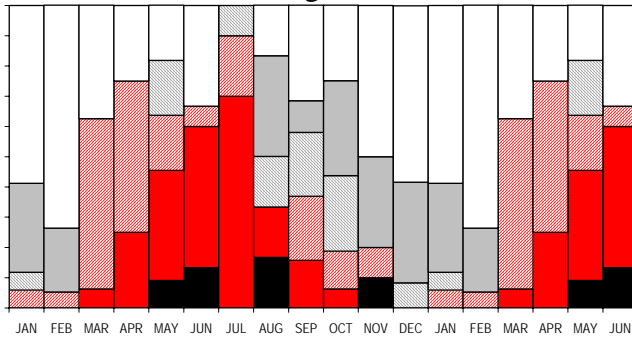
Other Scientific Names: *sceptriformis* Salisb. ex Knight 1809, *sceptrum* Salisb 1807.

180 Records

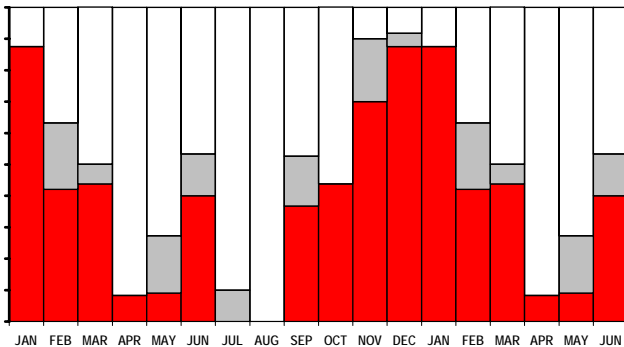
Population (178 records): 2% Common, 24% Frequent, 74% Rare, 0.6% Extinct.

Dispersion (117 records): 59% clumped, 39% variable, 0.9% evenly distributed, 0.9% widespread.

Flowering (175 records with: Jan 17, Feb 19, Mar 16, Apr 12, May 11, Jun 15, Jul 10, Aug 6, Sep 19, Oct 16, Nov 10, Dec 24): Buds from Mar to Apr and Jul and Sep; Flowering from Apr to Jul; Peak Flowering from Aug; Over from Sep to Oct; Fruit from Oct to Feb and Aug; Nothing from Sep to Apr and Jun. Peak levels at 100% in Jul. Historically recorded as flowering from Jul to Mar!



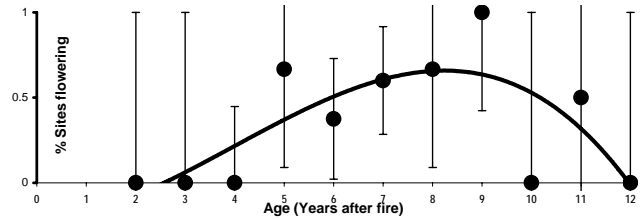
Growth (173 records with: Jan 16, Feb 19, Mar 16, Apr 12, May 11, Jun 15, Jul 10, Aug 5, Sep 19, Oct 16, Nov 10, Dec 24): Much from Sep to Mar and Jun; Rare from Feb and Nov; None from Feb to Oct. Peak levels at 92% in Dec.



Seedlings (88 records): All without any seedlings present.

Fire Survival : No data.

Age to first flowering: First flowers recorded at 5 years, 50% estimated at 5-7 years, and 100% recorded at 9 years.



Height (175 records): 2% 0-0.2 m tall, 74% 0.2-1 m tall, 23% 1-2 m tall, 0.6% 2-5 m tall.

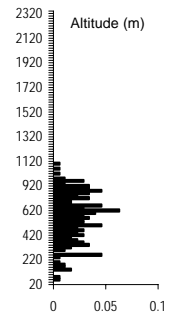
Pollinators (2 records): 50% bees or wasps, 50% beetles.

Detailed Pollinators (1 record): Solitary Bee.

Habitat:

Distance to Ocean (173 records): 84% inland - further than 2 km from coast.

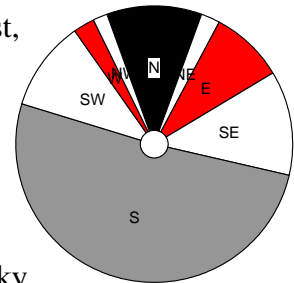
Altitude (173 records): 40 - 1000 m; 400 *lq* - 560 *med* - 660 *uq*m.



Landform (170 records): 68% deep soil, 27% shallow soil, 5% rocky outcrops, 0.6% swamp.

Slope (170 records): 63% steep incline, 32% gentle incline, 4% hill top, 0.6% cliff, 0.6% platform.

Aspect (163 records): 63% South, 14% East, 13% North, 9% West.



Soil Type (170 records): 61% sandy, 16% peaty, 12% loamy, 6% gravelly, 4% rocky, 1% clayey.

Soil Colour (169 records): 66% grey, 22% black, 10% brown, 1% white.

Geology (171 records): 97% sandstone, 2% shale, 0.6% conglomerate.

Vegetation (172 records): 97% shrubland, 2% plantations, 1% grassland.

Conservation Status and Threat:

Red Data List Status: Near Threatened B1a(i)b(i,ii,iii,iv)c(iv).

Occurrence (Fynbos): 2 431 km² with 21% conserved and 31% lost; **Occupancy:** 224 km² with 41% conserved and 13% lost. **Fragmentation index:** 5%.

Nature Reserves (173 records): 40% in nature reserves.

Habitat destruction (168 records): 99% extensive natural habitat, 0.6% islands, 0.6% naturally linear habitats.

Alien Invasive Species (167 records):
49% none, 46% *Pinus*, 2% *Hakea*,
2% Fabaceae (chiefly alien *Acacia*).
Alien Density (167 records): 49% alien-free,
45% sparse, 4% abundant, 2% dense.

Cultivation & Utilization:

Picking (126 records): 100% no sign of
picking.

Cultivation Status: Plantings - 1 records
(0.6%).

Atlasers Notes:

3 live plants and 3 dead plants (*Phytophthora* or
drought?) (AGR91122606); 21 living and 13
dead (AGR91122607); Two totally dead
bushes found - both fully grown and in
flower when they died (LYM94061201); 2
out of 4 plants dead (SHR99032102); 4 out
of 12 plants visible from path have died since
13/3/2000 (TLEY1010603); 1 of 4 plants is

dead (TLEY1010605); And 1 dead
(AGR99122602); Dead plant also
(MHRY1032203);

The plants looks very healthy - many seed heads
on the ground but no seedlings
(PAP92060802);

Confusing Species: A single instance of
misidentification with *P. spicatus* as a young
plant.

Records of identification queries = 6.

Records of corrected identification queries = 1.

Variation and Taxonomy: No variation noted.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus spathulatus (Thunb.) Kuntze 1781, 1891
Langeberg Scepter

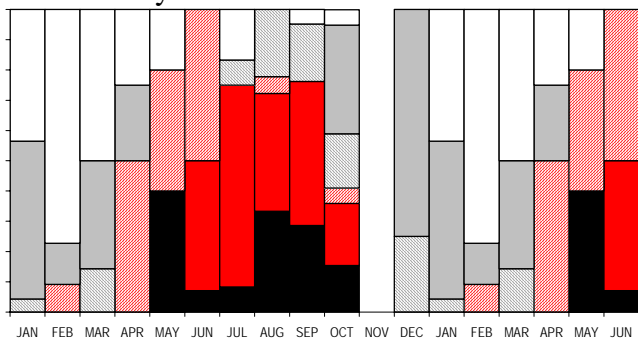
Other Common Names: Fan-leaf Paranomus.
Other Scientific Names: *flabellifer* Salisb. ex Knight 1809, *marginata* RBr 1810, *muirii* (Phill & Hutch) 1912.

178 Records

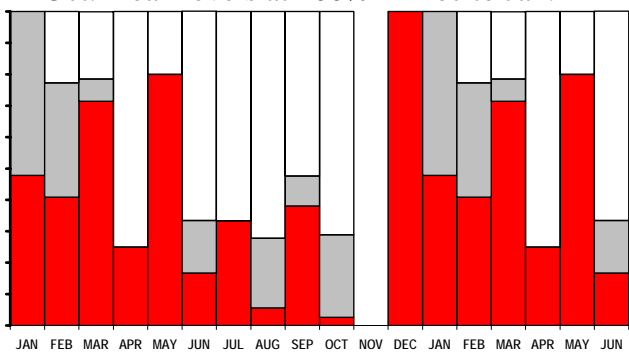
Population (175 records): 1% Abundant, 37% Common, 54% Frequent, 8% Rare.

Dispersion (171 records): 46% variable, 42% clumped, 9% widespread, 3% evenly distributed.

Flowering (176 records with: Jan 23, Feb 22, Mar 14, Apr 4, May 5, Jun 14, Jul 12, Aug 18, Sep 21, Oct 39, Nov 0, Dec 4): Buds from Apr to Jun; Flowering from Jun to Oct; Peak Flowering from May and Aug to Sep; Over from Aug and Dec; Fruit from Dec to Jan, Mar to Apr and Oct; Nothing from Jan to May. Peak levels at 100% in Jun and Aug. Historically recorded as flowering from May to Dec.



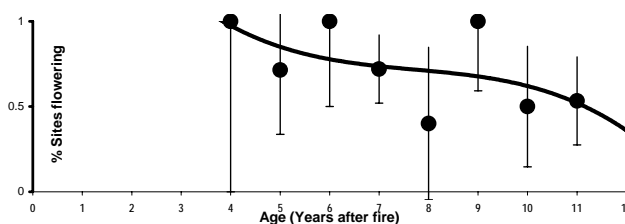
Growth (173 records with: Jan 23, Feb 22, Mar 14, Apr 4, May 5, Jun 12, Jul 12, Aug 18, Sep 21, Oct 38, Nov 0, Dec 4): Much from Dec to May and Jul and Sep; Rare from Jan to Feb and Aug and Oct; None from Feb to Oct. Peak levels at 100% in Dec to Jan.



Seedlings (93 records): Absent in 87%: fewer seedlings than prefire adults in 2 cases, and more in 4 cases. Seedlings found in Jul (3), Aug, Sep and Oct.

Fire Survival (9 records): 78% resprouted from underground boles, 11% eliminated from the area by fires, 11% survived by seedlings only.

Age to first flowering: First flowers recorded at 4 years, 50% estimated at 4-9 years, and 100% recorded at 6 years, but only consistently after 13 years.



Height (175 records): 2% 0-0.2 m tall, 54% 0.2-1 m tall, 43% 1-2 m tall, 0.6% 2-5 m tall.

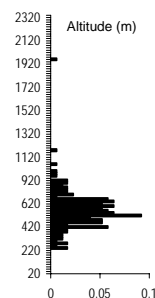
Pollinators (1 records): 100% bees or wasps.

Detailed Pollinators (1 record): Honey Bee.

Habitat:

Distance to Ocean (173 records): 100% inland - further than 2 km from coast.

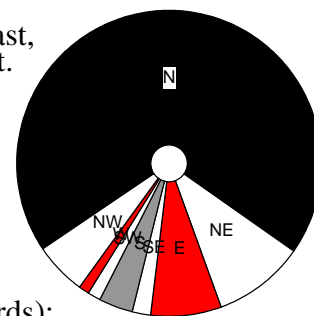
Altitude (173 records): 220 - 1860 m; 460_{lq} - 540_{med} - 600_{uq}m.



Landform (172 records): 52% deep soil, 26% rocky outcrops, 22% shallow soil.

Slope (173 records): 55% gentle incline, 34% steep incline, 6% hill top, 3% platform, 1% valley bottom, 0.6% cliff.

Aspect (162 records): 78% North, 14% East, 5% South, 3% West.



Soil Type (171 records): 55% sandy, 18% loamy, 16% rocky, 11% gravelly, 0.6% clayey.

Soil Colour (171 records): 66% grey, 18% brown, 9% yellow, 5% white, 1% black, 1% orange.

Geology (173 records): 95% sandstone, 2% conglomerate, 2% shale.

Vegetation (173 records): 97% shrubland, 3% grassland.

Conservation Status and Threat:

Red Data List Status: Near Threatened A4c. Occurrence (Fynbos): 829 km² with 30% conserved and 3% lost; Occupancy: 211 km² with 23% conserved and 10% lost. Fragmentation index: 7%.

Nature Reserves (173 records): 13% in nature reserves - inadequately conserved.

Habitat destruction (172 records): 97% extensive natural habitat, 2% islands, 1% road verges.

Alien Invasive Species (171 records): 75% none, 12% *Pinus*, 11% Fabaceae (chiefly alien *Acacia*), 1% Myrtaceae, 0.6% *Hakea*.

Alien Density (171 records): 75% alien-free, 22% sparse, 2% abundant, 0.6% dense.

Cultivation & Utilization:

Picking (132 records): 93% no sign of picking,
7% lightly picked.

Cultivation Status: No noted cultivation.

Atlassers Notes: Many notes on single
stemmed versus resprouters: see distribution.

Confusing Species: None, except as juveniles
with *P. dispersus*.

Records of identification queries = 17.

Records of corrected identification queries = 1.

Variation and Taxonomy: This is the only
Protea known to have two regeneration
modes. Eastern forms are single-stemmed
and killed by fire. Western forms are
multistemmed and resprout after fires.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d

Paranomus 'gamkaensis' nomen nudum 1994
Gamkaberg Scepter

Other Common Names: Atlased as "*P. spathulatus gamkaensis*". No other common names known.

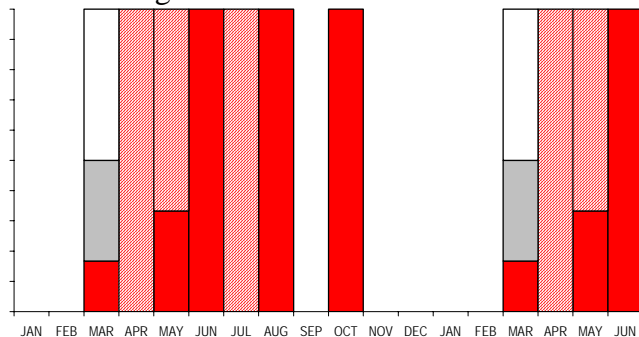
Other Scientific Names: None.

27 Records

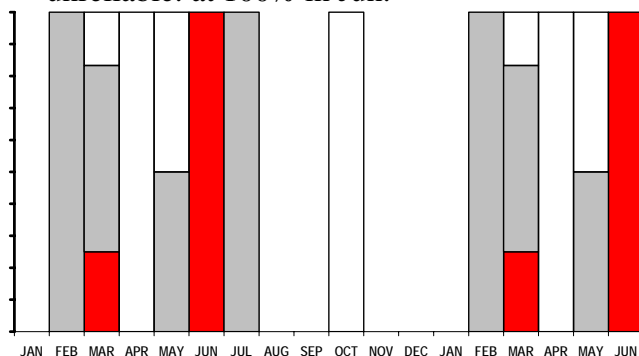
Population (27 records): 26% Common, 67% Frequent, 4% Rare, 4% Extinct.

Dispersion (26 records): 50% variable, 46% clumped, 4% evenly distributed.

Flowering (25 records with: Jan 0, Feb 0, Mar 12, Apr 3, May 6, Jun 1, Jul 1, Aug 1, Sep 0, Oct 1, Nov 0, Dec 0): Buds from Apr to May and Jul; Flowering from May to Jun and Aug to Oct; Peak Flowering and Over not recorded; Fruit from Mar; Nothing from Mar. Peak levels unreliable: at 100% in Apr to Oct. Historically not recorded as flowering.



Growth (25 records with: Jan 0, Feb 1, Mar 12, Apr 3, May 6, Jun 1, Jul 1, Aug 0, Sep 0, Oct 1, Nov 0, Dec 0): Much from Mar and Jun; Rare from Feb to Mar, May and Jul; None from Apr to May and Oct. Peak levels unreliable: at 100% in Jun.



Seedlings (12 records): All without any seedlings present.

Fire Survival (4 records): 75% eliminated from the area by fires, 25% escaped fires in fire-safe areas.

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



Height (26 records): 4% 0-0.2 m tall, 58% 0.2-1 m tall, 38% 1-2 m tall.

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

Habitat:

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

Altitude (27 records): 480 - 1020 m; 720_{lq} - 800_{med} - 920_{uq}m.

Landform (27 records):

48% deep soil, 48% shallow soil, 4% rocky outcrops.

Slope (26 records): 50% gentle incline, 46% steep incline, 4% hill top.

Aspect (25 records): 62% North, 24% West, 8% South, 6% East.

Soil Type (26 records):

62% sandy, 15% loamy, 12% rocky, 8% gravelly, 4% clayey.

Soil Colour (27 records):

59% brown, 26% grey, 15% red.

Geology (27 records): 96% sandstone, 4% shale.

Vegetation (27 records): 100% shrubland.

Conservation Status and Threat:

Red Data List Status: Vulnerable D2(ii).

Occurrence (Fynbos): 42 km² with 72% conserved and 0% lost; Occupancy: 37 km² with 54% conserved and 0% lost. Fragmentation index: 79%.

Nature Reserves (27 records): 52% in nature reserves - well conserved.

Habitat destruction (27 records):

100% extensive natural habitat.

Alien Invasive Species (25 records): 96% none, 4% Myrtaceae.

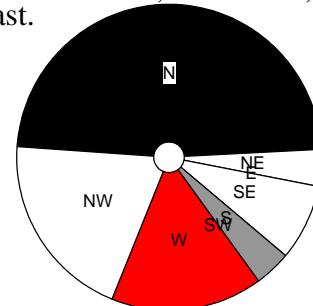
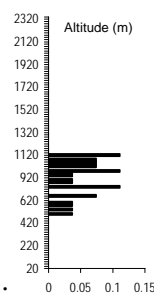
Alien Density (25 records): 96% alien-free, 4% sparse.

Cultivation & Utilization:

Picking (22 records): 100% no sign of picking.
Cultivation Status: No noted cultivation.

Atlasers Notes: None.

Confusing Species: Misidentified as *P. roodebergensis* and *P. longicaulis*. It is somewhat intermediate between *P.*



spathulatus (growth habit) and *P. longicaulis* (bracts).

Records of identification queries = 8.

Records of corrected identification queries = 2.

Variation and Taxonomy: No variation noted.

This species was discovered at the same time as *Mimetes chrysanthus*, but has not been described. Like the eastern forms of *P. spathulatus*, this is a reseeder.

Distribution: Add.

INCLUDEPICTURE

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

MERGEFORMAT \d