

1. *Pyrrosia schimperiana*



FIGURE 1a. *Pyrrosia schimperiana* on a sandstone cliff face at Blyderivierspoort (Van Jaarsveld 17246, 28 February 2002). Plants proliferate from stolons, occupying crevices (vegetative proliferation as backup strategy).



FIGURE 1b. Blyderivierspoort, the habitat of *Pyrrrosia schimperiana* (28 February 2002).



FIGURE 1c. *Pyrrrosia schimperiana* growing on cliffs along to the Blyde River (Van Jaarsveld 17246, 28 February 2002).

2. Cyrtanthus falcatus



FIGURE 2a & 2b. *Cyrtanthus falcatus* in habitat at the Mzinga Waterfall (KwaZulu-Natal Drakensberg). Note the drooping, sickle-shaped (falcate) leaves (Van Jaarsveld 18266, 11 October 2003).



FIGURE 2c. Mzinga Waterfall, habitat of *Cyrtanthus falcatus* (11 October 2003).



FIGURE 2d. Inflorescence of *Cyrtanthus falcatus*. Note the U-bend and the dark inner portion of the perianth.

3. *Cyrtanthus flammosus*



FIGURE 3a. *Cyrtanthus flammosus* in habitat on a ledge at the Kouga Dam. Note the bulb half exposed. Associated cremnohytes include *Adromischus sphenophyllus*, *Aloe pictifolia*, *Crassula muscosa* and *Haworthia viscosa*.

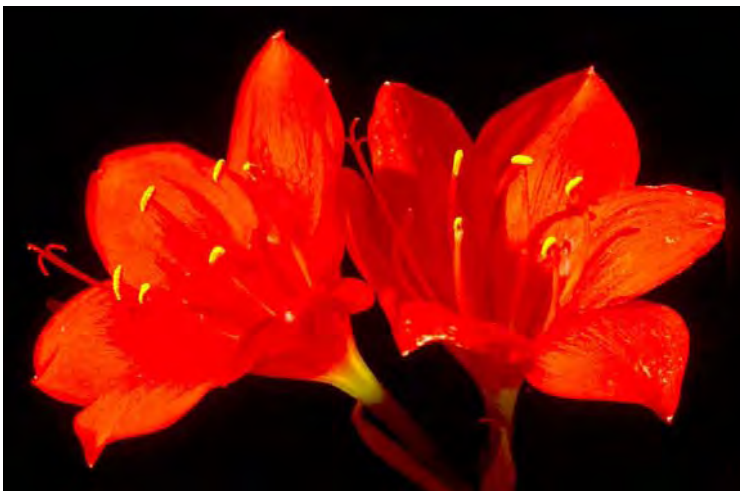


FIGURE 3b. Flowers of *Cyrtanthus flammosus*, an example of rich flowering on the cliff face.

4. *Cyrtanthus flanagani*



FIGURE 4a. *Cyrtanthus flanagani* in habitat on the Sentinel, KwaZulu-Natal Drakensberg (Van Jaarsveld 16989, 14 December 2001).



FIGURE 4b. Habitat of *Cyrtanthus flanagani*, the Sentinel in the background.

5. *Cyrtanthus herrei*



FIGURE 5a. *Cyrtanthus herrei* on Harasberg cliffs.



FIGURE 5b. *Cyrtanthus herrei* growing on a cliff on the Kuamsibberg (Hunsberg), southern Namibia.



FIGURE 5c. Inflorescence of *Cyrtanthus herrei* (cultivated at Kirstenbosch). Flowers pollinated by sunbirds.



FIGURE 5d. Fruit of *Cyrtanthus herrei*. Seed winged, wind-dispersed.

6. *Cyrtanthus inaequalis*



FIGURE 6a. *Cyrtanthus inaequalis* in flower at Kirstenbosch (from Eastern Cape material). Note the curved perianth tube. Flowers pollinated by sunbirds. Seed winged, wind-dispersed.



FIGURE 6b. *Cyrtanthus inaequalis* in habitat at Toorwaterspoort, Eastern Cape.



FIGURE 6c. Cliffs at Toorwaterspoort, habitat of *Cyrtanthus inaequalis*.



FIGURE 6d. Bulbils of *Cyrtanthus inaequalis* on a cliff face at Buffelspoort, Western Cape (vegetative backup).



7. Cyrtanthus junodii



FIGURE 7a. *Cyrtanthus junodii* in flower at Kirstenbosch (from Wolkberg material collected by E.J. van Jaarsveld).

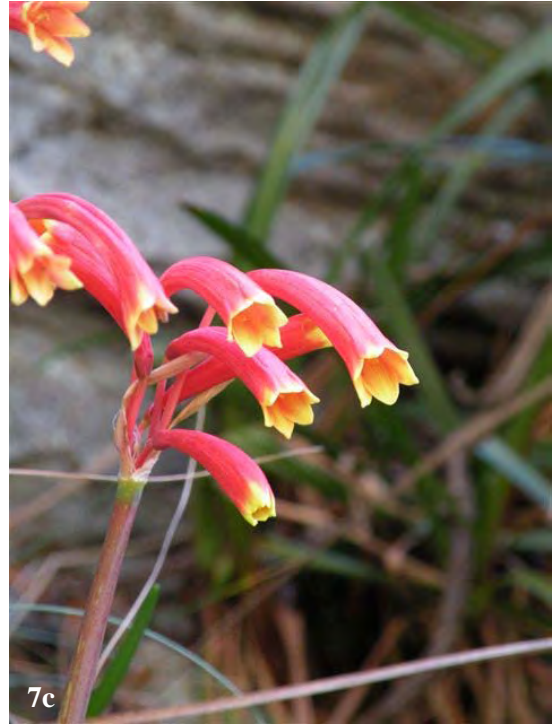


FIGURE 7b & 7c. *Cyrtanthus junodii* in habitat on the Wolkberg, Limpopo Province. Photograph: Wessel Swanepoel.



FIGURE 7d. Dolomite cliffs of the Wolkberg, habitat of *Cyrtanthus junodii*. Photograph: Wessel Swanepoel.



FIGURE 7e. *Cyrtanthus junodii* in fruit. Seed winged, wind-dispersed.

8. *Cyrtanthus labiatus*



FIGURE 8a. *Cyrtanthus labiatus* grown at Kirstenbosch, pollinated by sunbirds in its native habitat. Seeds winged and wind-dispersed.



FIGURE 8b. *Cyrtanthus labiatus* in flower on a cliff face at Kouga Dam, sharing its habitat with *Aloe pictifolia*, another cremnophyte.



FIGURE 8c. Bulbils of *Cyrtanthus labiatus*, a vegetative propagation backup strategy in its cliff-face habitat.

9. *Cyrtanthus montanus*



FIGURE 9a. *Cyrtanthus montanus* is endemic to the southeastern Cape and is pollinated by butterflies (*Meneris tulbaghia*). Seed winged, wind-dispersed.



FIGURE 9b. *Cyrtanthus montanus* growing on a ledge in habitat at Keurkloof, Kouga. Note the formation of vegetative bulbils so characteristic of many cremnophilous succulent and bulbous plants.



FIGURE 9c. Baviaanskloof, the cliff-face habitat of *Cyrtanthus montanus*.



FIGURE 9d. *Cyrtanthus montanus* occupying rock crevices at Grootrivierspoort in the Eastern Cape.

10. *Haemanthus albiflos*



FIGURE 10a. *Haemanthus albiflos* in its cliff-face habitat along the Mzimvubu River in the Transkei region of the Eastern Cape.



FIGURE 10b. *Haemanthus albiflos* in flower and fruit at Kirstenbosch in the summer of 2009.



FIGURE 10c. *Haemanthus albiflos* in fruit at Kirstenbosch in autumn. The fleshy berries turn red when ripe and are dispersed by birds.

11. *Haemanthus humilis* subsp. *humilis*



FIGURE 11a & 11b. *Haemanthus humilis* subsp. *humilis* (from Tandyberg, Graaff-Reinet).



FIGURE 11c. *Haemanthus humilis* subsp. *humilis* in its cliff-face habitat.

12. *Haemanthus paucifolius*



FIGURE 12a. *Haemanthus paucifolius* in fruit (cultivated from material from Barberton). Note the vegetative spread of young bulbs at the base of the plant.



FIGURE 12b. *Haemanthus paucifolius* in its native habitat, cliffs near Barberton.

13. *Aloe arborescens* subsp. *mzimnyati*



FIGURE 13a. *Aloe arborescens* subsp. *mzimnyati* on a scree below the cliff face along the Mzimnyati River, KwaZulu-Natal.



FIGURE 13b. *Aloe arborescens* subsp. *mzimnyati* on a cliff face at the Mzimnyati River, KwaZulu-Natal.

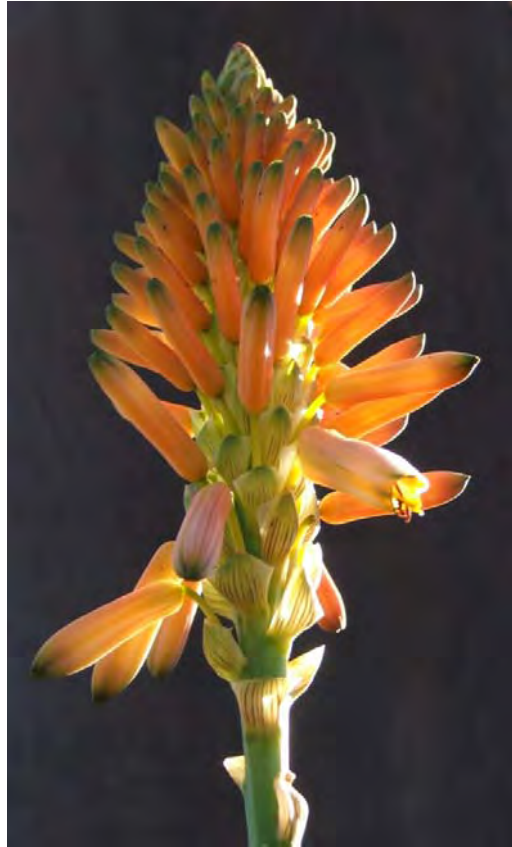


FIGURE 13c. Note the short flowers of *Aloe arborescens* subsp. *mzimnyati*, from the Mzimnyati River, KwaZulu-Natal.



FIGURE 13d. *Aloe arborescens* subsp. *mzimnyati* in flower at the Mzimnyati River in KwaZulu-Natal. Pollinated by sunbirds.

14. *Aloe catengiana*



FIGURE 14a. *Aloe catengiana* in flower at Kirstenbosch.



FIGURE 14b. The habitat of *Aloe catengiana*, the sheer cliff faces of Omavanda in the Kaokoveld of Namibia.



FIGURE 14c. A juvenile of *Aloe catengiana* in a rock crevice at Omavanda, Kaokoveld, Namibia. Plants are pollinated by sunbirds, the seeds dispersed by wind.

15. *Aloe challsii*



FIGURE 15a. *Aloe challsii* in its habitat on Steenkampsberg in Mpumalanga.



FIGURE 15b. Steenkampsberg, cliff-face habitat of *Aloe challisii*.



FIGURE 15c. *Aloe challisii* in fruit at Steenkampsberg in Mpumalanga.

16. *Aloe corallina*



FIGURE 16a. *Aloe corallina* in its habitat at Otjiboronbongo in the Cunene Valley in the northern Baynes Mountains in Namibia.



FIGURE 16b. Inflorescence of *Aloe corallina*. The flowers are pollinated by sunbirds.



FIGURE 16c. Cunene Valley in the Baynes Mountains where *Aloe corallina* is found in its native habitat.

17. *Aloe dabenorisana*



FIGURE 17a. *Aloe dabenorisana* in flower (from Dabenorisberg, Bushmanland).



FIGURE 17b. *Aloe dabenorisana* in habitat on the shady south-facing slopes of Pellaberg.

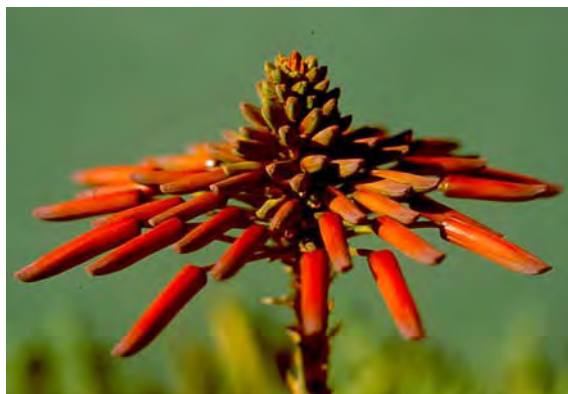


FIGURE 17c. The inflorescence of *Aloe dabenorisana*.



FIGURE 17d. *Aloe dabenorisana* in habitat on Dabenorisberg, Bushmanland. Plants grow in drooping clusters.

18. *Aloe dewinteri*

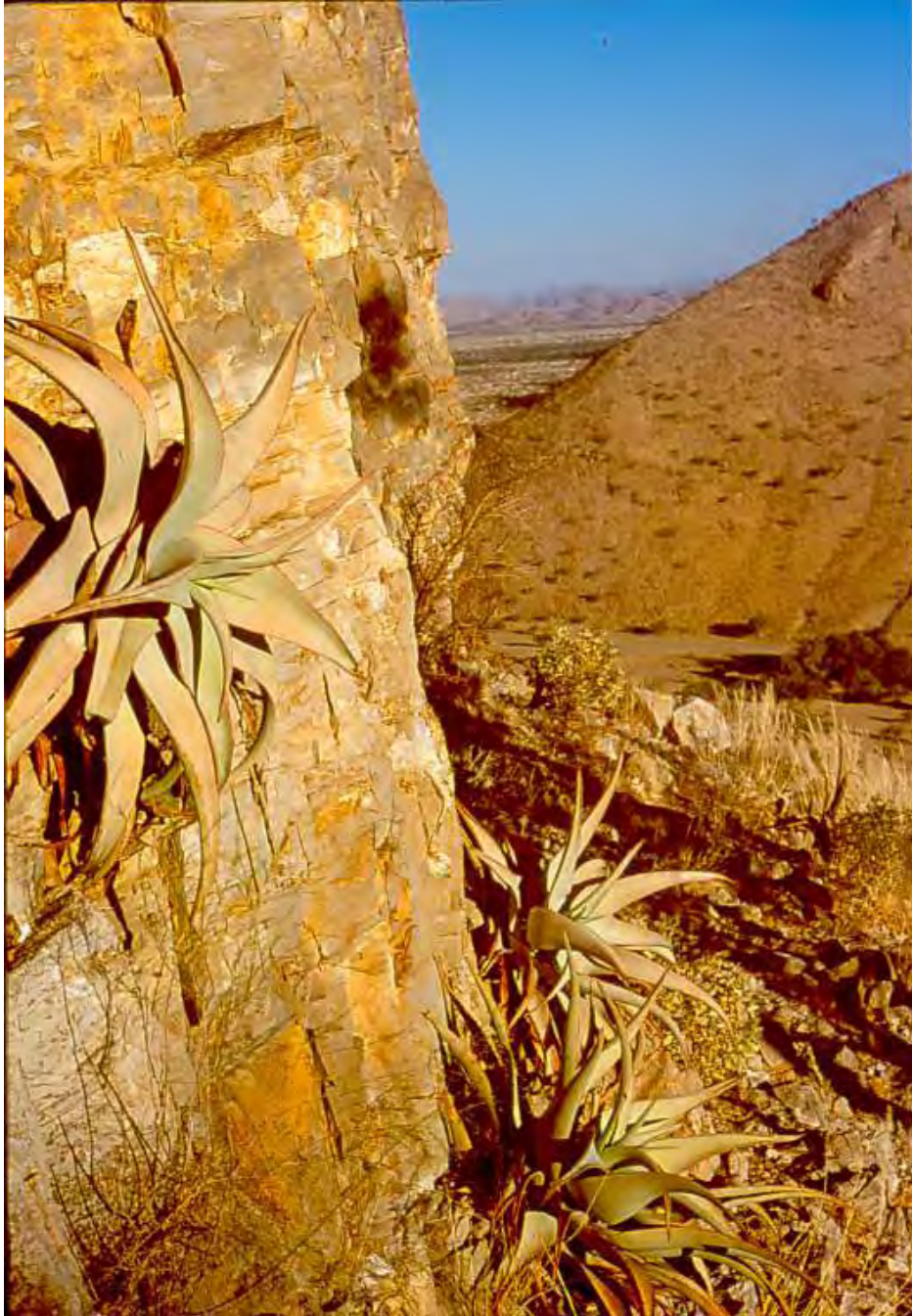


FIGURE 18a. *Aloe dewinteri* growing on a dolomite cliff face at Khowarib, Sesfontein, Kaokoveld.



FIGURE 18b. Dolomitic mountains east of Sesfontein, the habitat of *Aloe dewinteri*.



FIGURE 18c. *Aloe dewinteri* growing on a dolomite cliff face, east of Sesfontein in the Kaokoveld.

19. *Aloe haemanthifolia*



FIGURE 19a. *Aloe haemanthifolia* growing on a ledge on the Skurweberg in the Western Cape.



FIGURE 19b. *Aloe haemanthifolia* growing on a ledge on the Skurweberg in the Western Cape.



FIGURE 19c. *Aloe haemanthifolia* sharing its habitat with *Crassula atropurpurea* var. *anomala* on the Skurweberg.



FIGURE 19d. Clusters of *Aloe haemanthifolia* in accessible places near the cliffs are heavily grazed. Note the fibrous leaves.

20. *Aloe hardyi*



FIGURE 20a. *Aloe hardyi* in flower at Kirstenbosch (material from Kromellenboog, Olifants River, Mpumalanga). The flowers are pollinated by sunbirds.



FIGURE 20b. Dolomite cliffs at Kromellenboog, habitat of *Aloe hardyi*—some plants visible in the background.



FIGURE 20c. *Aloe hardyi* sharing its habitat with *Sarcostemma viminale* at Kromellenboog, Olifants River, Mpumalanga.

21. *Aloe kouebokkeveldensis*



FIGURE 21a. *Aloe kouebokkeveldensis* here in its habitat, Teerivierskloof, near Citrusdal in the Western Cape. Plants grow solitary.



FIGURE 21b. Fynbos cliff-face habitat of *Aloe kouebokkeveldensis* at Teerivierskloof south of Citrusdal.



FIGURE 21c. *Aloe kouebokkeveldensis* at Teerivierskloof.

22. *Aloe meyeri*



FIGURE 22a. *Aloe meyeri* in habitat on the Rosyntjieberg in January 1980.



FIGURE 22b. *Aloe meyeri* in habitat on a cliff at the Rosyntjieberg together with *Tylecodon kritzingeri*.



FIGURE 22c. *Aloe meyeri* growing on the shady south-facing slopes of the Rosyntjieberg.

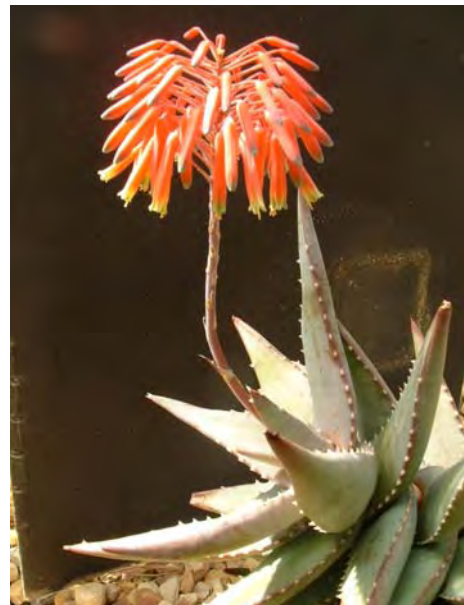


FIGURE 22d. *Aloe meyeri* in flower at Kirstenbosch.

23. *Aloe mutabilis*



FIGURE 23a. The habitat of *Aloe mutabilis* at Chuniespoort.



FIGURE 23b. *Aloe mutabilis* growing on cliffs at Chuniespoort, Limpopo Province.

24. *Aloe nubigena*



FIGURE 24a. *Aloe nubigena* in habitat at God's Window, Graskop.



FIGURE 24b. Cliff-face habitat of *Aloe nubigena*.



FIGURE 24c. Moist Afro-temperate Forest at Graskop, habitat of *Aloe nubigena*.



FIGURE 24d. *Aloe nubigena* in flower and fruit at God's Window near Graskop.

25. *Aloe omavandae*



FIGURE 25a. *Aloe omavandae* on an Omavanda cliff face of the Baynes Mountains in the Kaokoveld, Namibia.



FIGURE 25b. *Aloe omavandae* growing on a cliff at Omavanda, Baynes Mountains, together with *Cotyledon orbiculata* and *Sarcostemma viminale*.

26. *Aloe pavelkae*



FIGURE 26a. *Aloe pavelkae* at Kuamsibberg on the Hunsberg in the Orange River Valley in southern Namibia. Note the functional leaves confined to the stem apices. Plants grow on sandstone cliffs on shady, south-facing slopes.



FIGURE 26b. *Aloe pavelkae* in seed. Plants flower from late April to May, the seeds ripening in winter. Seed capsules are always presented ascending or ascending-spreading.



FIGURE 26c. Upper sandstone cliff face of Kuamsibberg, habitat of *Aloe pavelkae* on the Hunsberg in southern Namibia.



FIGURE 26d. *Aloe pavelkae* in flower at Kirstenbosch in May 2008.
Note the long, slender pedicels (shorter in *A. meyeri* and *A. dabenorisana*).
Pollinated by sunbirds.

27. *Aloe pictifolia*



FIGURE 27a. *Aloe pictifolia* growing on a sandstone cliff at the Kouga Dam in the Eastern Cape.



FIGURE 27b. *Aloe pictifolia* in habitat at the Kouga Dam in the Eastern Cape.



FIGURE 27c. *Aloe pictifolia* in flower.



FIGURE 27d. Sheer cliff faces of the Kouga Dam in the Eastern Cape, home of *Aloe pictifolia*.

28. *Aloe reynoldsii*



FIGURE 28a. *Aloe reynoldsii* in its native habitat along the Bashee River at Tsolorha in the Transkei region of the Eastern Cape.



FIGURE 28b. *Aloe reynoldsii* growing on mudstone cliffs at Tsolorha in the Transkei region of the Eastern Cape.



FIGURE 28c. A young plant of *Aloe reynoldsii* growing on mudstone cliffs together with *Portulacaria afra*.

29. *Aloe soutpansbergensis*



FIGURE 29a. *Aloe soutpansbergensis* growing among *Selaginella* ferns on a cliff on a southeastern slope of the Soutpansberg. The leaves are soft and fragile.



FIGURE 29b. The cliff-face habitat of *Aloe soutpansbergensis* on some upper south-facing slopes of the Soutpansberg.



FIGURE 29c. *Aloe soutpansbergensis* in its native habitat on the Soutpansberg.

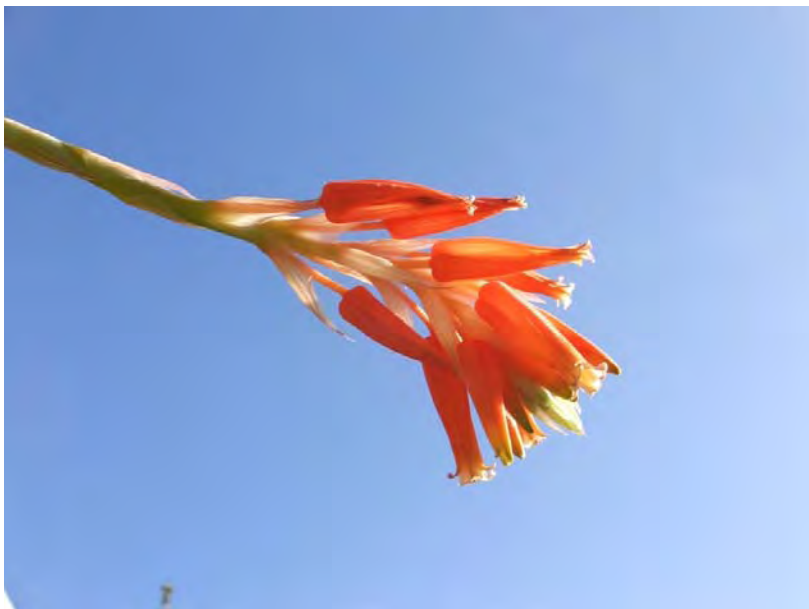


FIGURE 29d. Inflorescence of *Aloe soutpansbergensis*. It does not curve upwards. The flowers remain projected forwardly, a unique way of presentation in *Aloe*, especially compared to closely related species such as *A. nubigena*.

30. *Aloe thompsoniae*



FIGURE 30a. *Aloe thompsoniae* in flower at Kirstenbosch.



FIGURE 30b. *Aloe thompsoniae* growing in a hanging basket at Kirstenbosch.



FIGURE 30c. The Wolkberg in Limpopo Province, the habitat of *Aloe thompsoniae*.



FIGURE 30d. *Aloe thompsoniae* on a sandstone cliff face on the Soutpansberg.



FIGURE 30e. *Aloe thompsoniae* in a container at Kirstenbosch.

31. *Bulbine cremnophila*



FIGURE 31a. *Bulbine cremnophila* at Gertsmitzkloof in the Baviaanskloof growing on a shady cliff face together with *Crassula pellucida* subsp. *marginalis*.



FIGURE 31b. *Bulbine cremnophila* growing in Gertsmitkloof in the Baviaanskloof.



FIGURE 31c. *Bulbine cremnophila* flowering at Kirstenbosch—flowers during daytime.

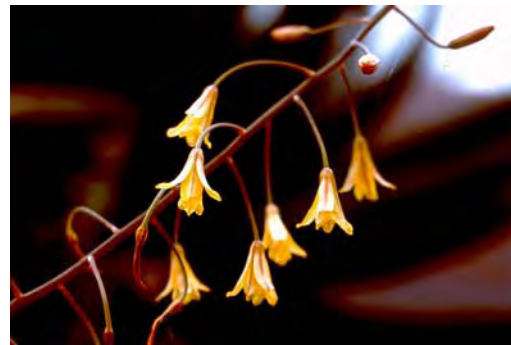


FIGURE 31d. *Bulbine cremnophila* flowering at Kirstenbosch—flowers at night.

32. *Bulbine latifolia* var. *curvata*



FIGURE 32a. *Bulbine latifolia* var. *curvata* flowering at Kirstenbosch, material from the Kouga Dam, Eastern Cape.



FIGURE 32b & 32c. *Bulbine latifolia* var. *curvata* on a cliff at the Kouga Dam in the Eastern Cape. Note the pendent, almost terete leaves.

33. *Bulbine meiringii*



FIGURE 33a. *Bulbine meiringii* in its native habitat at Meiringspoort in the Klein Karoo, Western Cape.



FIGURE 33b. *Bulbine meiringii* in flower at Kirstenbosch.



FIGURE 33c. *Bulbine meiringii* growing in its native habitat at Meiringspoort.

34. *Bulbine natalensis*



FIGURE 34a. *Bulbine natalensis* growing on a cliff face at the Bashee River at Collywobbles in the Transkei region of the Eastern Cape.



FIGURE 34b. *Bulbine natalensis* on a cliff face. The leaves are very soft and fragile.

35. *Bulbine pendens*



FIGURE 35a. *Bulbine pendens* in fruit on a cliff at the Skaaprivierspoort growing together with *Rhadamanthus montanus*.



FIGURE 35b. *Bulbine pendens* at the Skaaprivierspoort.

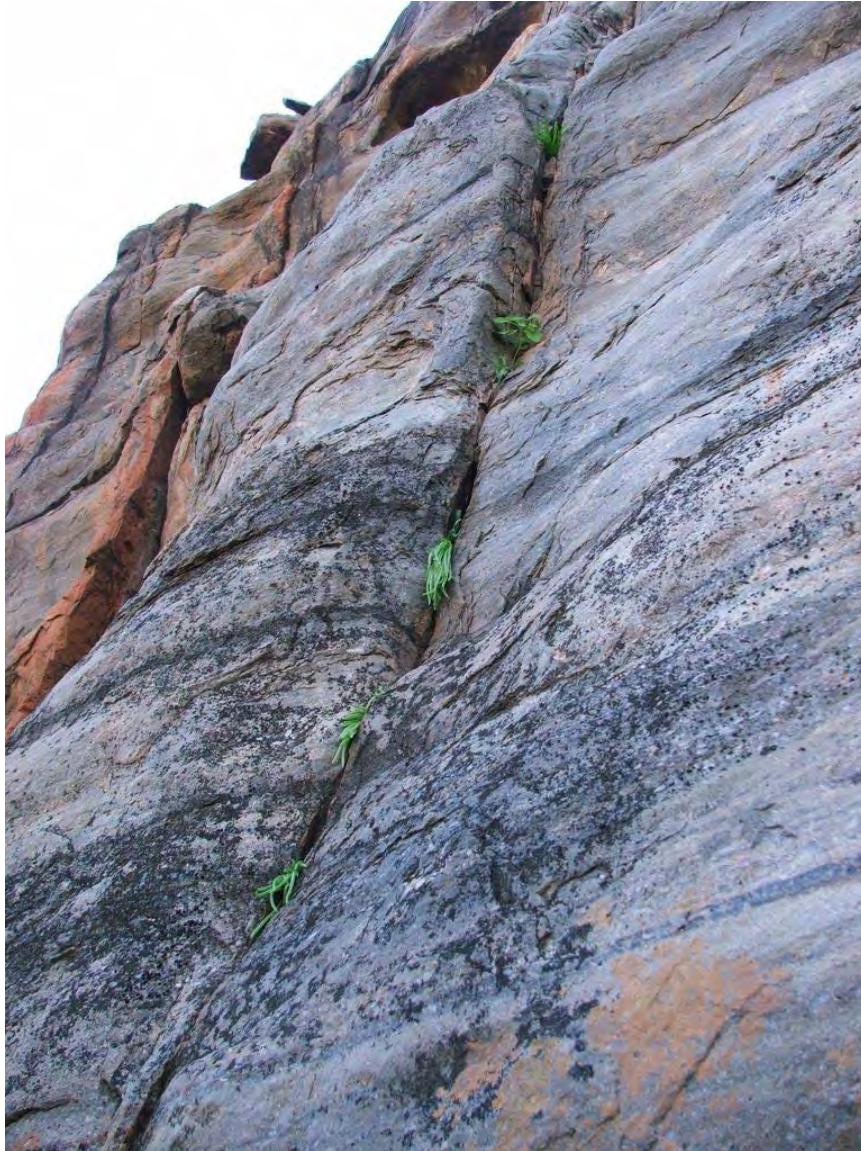


FIGURE 35c. *Bulbine pendens* growing on a sheer south-facing cliff at the Skaaprivierspoort.



FIGURE 35d. Red iron-rich sandstone at the Skaaprivierspoort, the habitat of *Bulbine pendens*, *Ornithogalum pendens* and *Tylecodon petrophilus*.

36. *Bulbine ramosa*



FIGURE 36a. *Bulbine ramosa* in habitat at Badspoort (Calitzdorp).



FIGURE 36b. *Bulbine ramosa* in flower at Kirstenbosch.

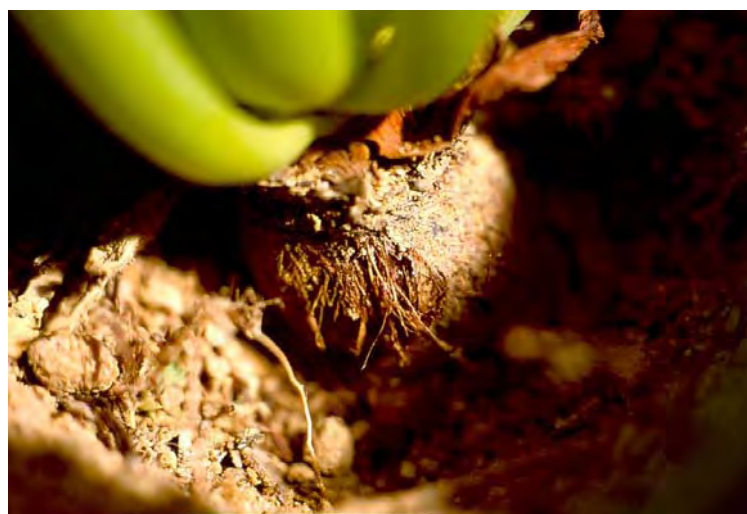


FIGURE 36c. Tuber of *Bulbine ramosa*, from Badspoort, Calitzdorp.

37. *Bulbine retinens*



FIGURE 37a. *Bulbine retinens* of the Kouga River (Hoeree) where it grows on sandstone cliffs.



FIGURE 37b. *Bulbine retinens* growing with *Adromischus sphenophyllus* on a sandstone cliff face at Hoeree.



FIGURE 37c. The habitat of *Bulbine meiringii* at Hoeree on the Kouga River.

38. *Bulbine rupicola*



FIGURE 38a. *Bulbine rupicola* growing below Guernakop, Kouga River.



FIGURE 38b. *Bulbine rupicola* growing in dense mats below Guernakop, Kouga River.



FIGURE 38c. Cliffs along the Kouga River, near Keurboskloof, the habitat of *Bulbine rupicola*.

39. *Bulbine suurbergensis*



FIGURE 39a. *Bulbine suurbergensis* in its native habitat along the banks of the Witte-rivier in the Suurberg, Eastern Cape.



FIGURE 39b. *Bulbine suurbergensis* in its native habitat along the banks of the Witterivier in the Suurberg, Eastern Cape.



FIGURE 39c. *Bulbine suurbergensis* in its native habitat along the banks of the Witterivier in the Suurberg, Eastern Cape.

40. *Bulbine thomasiae*



FIGURE 40a. *Bulbine thomasiae* in its resting phase on upper south-facing cliffs along the Bashee River at Collywobbles in the Transkei region.



FIGURE 40b. *Bulbine thomasiae* in the rainy season on south-facing cliffs along the Bashee River at Tsolorha in the Transkei region of the Eastern Cape.



FIGURE 40c. *Bulbine thomasiae* in flower where it grows on south-facing cliffs along the Bashee River at Tsolorha in the Transkei region.

41. *Gasteria batesiana* var. *batesiana*



FIGURE 41a. *Gasteria batesiana* var. *batesiana* on a cliff at Klipwal Goldmine, along the Pongola River in KwaZulu-Natal where it shares the habitat with another cremnophyte, *Schizobasis intricata*.



FIGURE 41b. Cliffs above the Pongola River, habitat of *Gasteria batesiana* var. *batesiana*.



FIGURE 41c. *Gasteria batesiana* var. *batesiana* on banks of the White Mfolozi in the Mkuze Game Reserve. A narrow-leaved form. Photograph: Dave Gwen-Evans.



FIGURE 41d. Flowers of *Gasteria batesiana* var. *batesiana*, pollinated by sunbirds.



FIGURE 41e. Young plants of *Gasteria batesiana* have proliferated from fallen leaves.

42. *Gasteria batesiana* var. *dolomitica*



FIGURE 42a. *Gasteria batesiana* var. *dolomitica* growing on a dolomite cliff face on the farm Ostend at Penge in the Olifants River Valley in Limpopo Province.



FIGURE 42b. Inflorescence of *Gasteria batesiana* var. *dolomitica* at Kirstenbosch, a large inflorescence compared to the relatively small plants—an example of rich flowering (material from Penge, Limpopo Province). The flowers are pollinated by sunbirds.



FIGURE 42c. *Gasteria batesiana* var. *dolomitica* on a cliff face at Penge. Note the dense clusters and vegetative output. Leaves often proliferate where they touch the ground or if they become detached.

43. *Gasteria croucheri* subsp. *pendulifolia*



FIGURE 43a. *Gasteria croucheri* subsp. *pendulifolia* growing on a cliff face at Mamba Valley along the Umgeni River.



FIGURE 43b. *Gasteria croucheri* subsp. *pendulifolia* growing on a cliff face at Mamba Valley along the Umgeni River. The plants proliferate from the base to form dense groups. Detached leaves proliferate and form new plants.



FIGURE 43c. Inflorescence of *Gasteria croucheri* subsp. *pendulifolia* (material from Mamba Valley, Umgeni River). Flowers are pollinated by sunbirds.

44. *Gasteria doreeniae*



FIGURE 44a. *Gasteria doreeniae* growing on a ledge in Swartwaterspoort in the Eastern Cape. Plants proliferate, forming dense groups. Detached leaves will also proliferate.



FIGURE 44b. *Gasteria doreeniae* growing in a container at Kirstenbosch (material from Swartwaterspoort, Eastern Cape). Plants proliferate, forming dense groups.



FIGURE 44c. Swartwaterspoort, habitat of *Gasteria doreeniae*.

45. *Gasteria glauca*



FIGURE 45a. *Gasteria glauca* growing on a shady ledge below Guernakop, Kouga River. Plants proliferate from the base, forming dense groups.



FIGURE 45b. *Gasteria glauca* growing on an exposed ledge below Guernakop, Kouga River. Plants proliferate from the base, forming dense groups.



FIGURE 45c. *Gasteria glauca* in flower at Kirstenbosch.



FIGURE 45d. The Kouga River where *Gasteria glauca* inhabits the sheer east-facing cliffs.

46. *Gasteria glomerata*



FIGURE 46a. *Gasteria glomerata* growing on a sheer cliff face at Kouga Dam. Plants proliferate, forming dense groups. Detached leaves landing in crevices can also root, forming new plants.



FIGURE 46b. *Gasteria glomerata* flowering at Kirstenbosch. The perianth is large and conspicuous compared to the body size of the plants (rich flowering). Flowers are pollinated by sunbirds.



FIGURE 46c. *Gasteria glomerata* sharing the habitat with *Streptocarpus meyeri* at the Kouga Dam in the Eastern Cape.

47. *Gasteria pillansii* var. *ernesti-ruschii*



FIGURE 47a. *Gasteria pillansii* var. *ernesti-ruschii* on Kuamsibberg, Hunsberg, Namibia. Plants proliferate, forming dense groups. Detached leaves landing up in crevices can also root, forming new plants.



FIGURE 47b. *Gasteria pillansii* var. *ernesti-ruschii* on a quartz cliff face of the Kuamsibberg, Hunsberg.

48. *Gasteria rawlinsonii*



FIGURE 48a. *Gasteria rawlinsonii* grown at Kirstenbosch (material from Gertsmit-skloof, Baviaanskloof, Eastern Cape). The flowers are pollinated by sunbirds.



FIGURE 48b. *Gasteria rawlinsonii* in its habitat at Gertsmitaskloof in the Baviaanskloof, Eastern Cape.

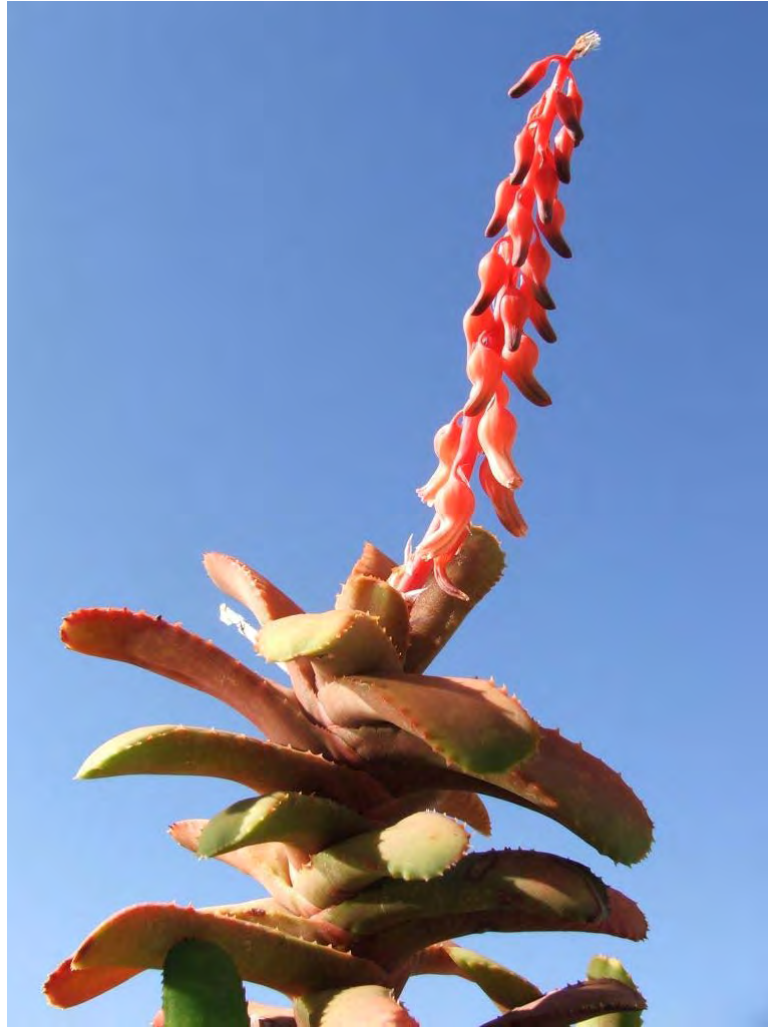


FIGURE 48c. *Gasteria rawlinsonii* grown at Kirstenbosch (material from Geelhoutboskloof, Baviaanskloof, Eastern Cape). The flowers are pollinated by sunbirds.

49. *Gasteria tukhelensis*



FIGURE 49a. *Gasteria tukhelensis* on a cliff face sharing its habitat with *Bulbine natalensis* at Shongweni on the Thukela River in KwaZulu-Natal.

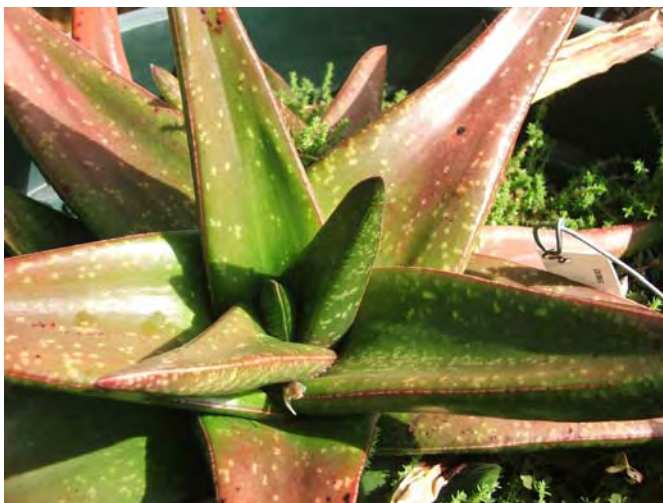


FIGURE 49b. *Gasteria tukhelensis* in cultivation at Kirstenbosch (material from Shongweni on the Thukela River in KwaZulu-Natal).



FIGURE 49c. *Gasteria tukhelensis* in flower at Kirstenbosch (material from Shongweni on the Thukela River in KwaZulu-Natal). Flowers are pollinated by sunbirds. Note the long, slender pedicles.



FIGURE 49d. The cliff habitat of *Gasteria tukhelensis* along the Thukela River in KwaZulu-Natal.



FIGURE 49e. *Gasteria tukhelensis* on a cliff face at Shongweni, Thukela River, KwaZulu-Natal.

50. *Haworthia angustifolia* var. *baylissii*



FIGURE 50a. A plant of *Haworthia angustifolia* var. *baylissii* in its shady habitat on a cliff in the Suurberg (Witterivier Poort). *Crassula cordata* in the background. Note the recurving leaves exposed to the maximum light.



FIGURE 50b. *Haworthia angustifolia* var. *baylissii* in its shady habitat on a cliff in the Suurberg (Witterivier Poort). *Crassula cordata* in the background.

51. *Haworthia attenuata* var. *attenuata* (Enon cliff form)



FIGURE 51a. *Haworthia attenuata* var. *attenuata* (Enon cliff-face form).



FIGURE 51b. *Haworthia attenuata* var. *attenuata* on an Enon conglomerate cliff face at Enon in the Eastern Cape.



FIGURE 51c. Enon conglomerate cliff face at Enon in the Eastern Cape.

52. *Haworthia cymbiformis* var. *ramosa*



FIGURE 52a. *Haworthia cymbiformis* var. *ramosa* at Wooldridge in the Eastern Cape.



FIGURE 52b. Cliff face at Wooldridge, the habitat of *Haworthia cymbiformis* var. *ramosa*.

53. *Haworthia cymbiformis* var. *setulifera*



FIGURE 53a. *Haworthia cymbiformis* var. *setulifera* sharing its shady, south-facing cliff habitat with *Crassula orbicularis* and *Senecio ficoides* at Collywobbles on the Bashee River in the Transkei region of the Eastern Cape.



FIGURE 53b & 53c. *Crassula cymbiformis* var. *setulosa* on a shady south-facing cliff at Collywobbles on the Bashee River in the Transkei region of the Eastern Cape.

54. *Haworthia glabrata*



FIGURE 54a. *Haworthia glabrata* in habitat on a exposed north-facing slope at Collywobbles in the Transkei region of the Eastern Cape.



FIGURE 54b. *Haworthia glabrata* on an exposed north-facing slope along the Bashee River at Collywobbles in the Transkei region of the Eastern Cape.

55. *Haworthia gracilis* var. *picturata*



FIGURE 55a. *Haworthia gracilis* var. *picturata* at the Kouga Dam in the Eastern Cape. Plants grow on shady cliff faces. Note the translucent windows.



FIGURE 55b. *Haworthia gracilis* var. *picturata* sharing its habitat with *Adromischus sphenophyllus* and *Cotyledon tomentosa* var. *tomentosa* at the Kouga Dam, Gamtoos River, Eastern Cape.

56. *Haworthia marumiana* var. *batesiana*



FIGURE 56a. *Haworthia marumiana* var. *batesiana* flowering on cliffs at the Valley of Desolation near Graaff-Reinet.

57. *Haworthia marumiana* var. *marumiana*



FIGURE 57a. *Haworthia marumiana* var. *marumiana* growing on the upper southern cliff face of Aasvoëlberg near Willowmore.



FIGURE 57b. The south-facing cliffs of Aasvoëlberg west of Willowmore, habitat of *Haworthia marumiana* var. *marumiana*.

58. *Haworthia mirabilis* var. *consanguinea*



FIGURE 58a. *Haworthia mirabilis* subsp. *consanguinea* growing on a cliff in Boesmanspoort near Greyton in the Western Cape. The reddish colour of the plants is due to the production of anthocyanins during the dry season.



FIGURE 58b. Boesmanspoort near Greyton in the Western Cape, the cliff-face habitat of *Haworthia mirabilis* subsp. *consanguinea*.



FIGURE 58c. *Haworthia mirabilis* subsp. *consanguinea* growing on a cliff in Boesmanspoort near Greyton in the Western Cape. Production of anthocyanins causes the reddish colour of the plants in the dry season.

59. *Haworthia scabra* var. *starkiana*



FIGURE 59a. *Haworthia scabra* var. *starkiana* in Schoemanskloof near the Cango Caves where the plants grow on exposed, sunny, northern slopes.



FIGURE 59b. *Haworthia scabra* var. *starkiana* growing on the cliffs of Schoemanskloof near the Cango Caves.

60. *Haworthia turgida* var. *turgida*



FIGURE 60a. *Haworthia turgida* on an east-facing sandstone cliff in the Tradouw Pass south of Barrydale.



FIGURE 60b. *Haworthia turgida* habitat on a west-facing sandstone cliff in the Tradouw Pass south of Barrydale.



FIGURE 60c. Cliff-face form of *Haworthia turgida* var. *turgida* in cultivation (material from the Tradouw Pass, Barrydale).

61. *Haworthia zantneriana*



FIGURE 61a. *Haworthia zantneriana* at Campher's Poort in the Eastern Cape. Plants grow on south-facing sandstone cliffs.



FIGURE 61b. *Haworthia zantneriana* at Campher's Poort.



FIGURE 61c. Campher's Poort, habitat of *Haworthia zantneriana*.

62. *Trachyandra tabularis*



FIGURE 62a. *Trachyandra tabularis* growing in its habitat on the upper shady south-facing cliffs of the back table of Table Mountain.



FIGURE 62b. *Trachyandra tabularis* in flower on the shady upper south-facing cliffs of the back table of Table Mountain.

63. *Albuca batteniana*



FIGURE 63a. *Albuca batteniana* on a cliff face near Morgan's Bay in the Eastern Cape. Note the *Agama atra atra* sharing its cliff habitat.



FIGURE 63b. *Albuca batteniana* growing on shale cliffs at Collywobbles in the former Transkei region of the Eastern Cape.



FIGURE 63c. Coastal cliffs near Morgan's Bay, habitat of *Albuca batteniana*.



FIGURE 63d. *Albuca batteniana* in flower at Kirstenbosch (material from Collywobbles, Transkei region, Eastern Cape).

64. *Albuca cremnophila*



FIGURE 64a. *Albuca cremnophila* in its cliff-face habitat at the Kouga Dam in the Eastern Cape.



FIGURE 64b & 64c. *Albuca cremnophila* in flower at Kirstenbosch. Note the yellow tips of the tepals.



FIGURE 64c. Leaves of *Albuca cremnophila* in cultivation in the Botanical Society Conservatory at Kirstenbosch. Note the translucent inner window (white portion).

65. *Albuca crudenii*



FIGURE 65a. *Albuca crudenii* in flower at Kirstenbosch (material from Collywobbles, Transkei region, Eastern Cape).



FIGURE 65b. *Albuca crudenii* growing on a sheer shale cliff at Alicedale Poort in the Eastern Cape. Note the *O. longibracteatum* below the cliffs.

66. *Albuca kirstenii*



FIGURE 66a. *Albuca kirstenii* bulbs sprouting below the Gourits Bridge in autumn.



FIGURE 66b. Cliffs on the Gourits River in the Western Cape where *Albuca kirstenii* grows.

67. *Albuca shawii*



FIGURE 67a. *Albuca shawii* on a sandstone cliff at the White Mfolozi River in KwaZulu-Natal.



FIGURE 67b. *Albuca shawii* in flower at Kirstenbosch (material from White Mfolozi River, KwaZulu-Natal).



FIGURE 67c. The sandstone cliffs at the White Mfolozi River, the habitat of *Albuca shawii*.

68. *Albuca thermarum*



FIGURE 68a. *Albuca thermarum* in its natural habitat on a cliff face at Badspoort near Calitzdorp in the Western Cape.



FIGURE 68b. *Albuca thermarum* growing at Badspoort near Calitzdorp.



FIGURE 68c. *Albuca thermarum* thriving in the Botanical Society Conservatory at Kirstenbosch (material from Badspoor, Calitzdorp, Western Cape).



FIGURE 68d. A bulb of *Albuca thermanum* in the Botanical Society Conservatory at Kirstenbosch (material from Badspoort, Calitzdorp, Western Cape).



FIGURE 68e. *Albuca thermanum* flowering at Kirstenbosch (material from Badspoort, Calitzdorp, Western Cape).

69. *Drimia cremnophila*



FIGURE 69a. *Drimia cremnophila* on a shale cliff face along the Mzimvubu River in the Transkei region of the Eastern Cape. Plants proliferate, forming dense clusters and occupying crevices (vegetative proliferation backup). The plant here shares its habitat with *Crassula cordata*.



FIGURE 69b. *Drimia cremnophila* on shale cliffs, sharing its habitat with *Bulbine natalensis* in the former Transkei region of the Eastern Cape.



FIGURE 69c. *Drimia cremnophila* in flower at Kirstenbosch (from material collected at the Mzimvubu River, Transkei region of the Eastern Cape). Pollen is released only by insect vibration.

70. *Drimia flagellaris*



FIGURE 70a. *Drimia flagellaris* on a sandstone cliff face at Molweni, Durban, KwaZulu-Natal. Plants proliferate, forming dense clusters and occupying crevices (vegetative proliferation backup).



FIGURE 70b. Molweni at Durban in KwaZulu-Natal, habitat of *Drimia flagellaris*.



FIGURE 70c. *Drimia flagellaris* on a sandstone cliff face at Molweni, Durban, KwaZulu-Natal.



FIGURE 70d. *Drimia flagellaris* flowering at Kirstenbosch (material from cliff face at Molweni, Durban, KwaZulu-Natal).



70e



70f

FIGURE 70e & 70f. *Drimia flagellaris* at Kirstenbosch, the infructescence (70e) remains functional (photosynthetically active) after the seeds have been released (material from cliff face at Molweni, Durban).

71. *Drimia loedolffiae*



FIGURE 71a. *Drimia loedolffiae* on a shale cliff face at Bolo at the Kei River in the Eastern Cape.



FIGURE 71b & 71c. The habitat of *Drimia loedolffiae* along the Kei River in the Eastern Cape.



FIGURE 71d. *Drimia loedolffiae* in flower at Kirstenbosch (material from a cliff face at Molweni, Durban, KwaZulu-Natal).



FIGURE 71e. *Drimia loedolffiae* in fruit at Kirstenbosch. The inflorescence rapidly desiccates after fruiting (material from a cliff face at Molweni, Durban, KwaZulu-Natal).

72. *Drimia mzimvubuensis*



FIGURE 72a. *Drimia mzimvubuensis* on a shale cliff along the Mzimvubu River in the Transkei region of the Eastern Cape.



FIGURE 72b. *Drimia mzimvubuensis* in flower at Kirstenbosch (material from the Mzimvubu River, Transkei region, Eastern Cape). Pollen is released only by insect vibration.



FIGURE 72c. *Drimia mzimvubuensis* on a shale cliff along the Mzimvubu River in the Transkei region of the Eastern Cape. Note the fleshy bulb scales that are exposed.

73. *Drimia uniflora*



FIGURE 73a. The small, solitary, tubular flowers of *Drimia uniflora* (*Litanthus pusillus*) where it grows near Leeukloofberg in the Eastern Cape. Note *Crassula nemorosa*, another geophytic cremnophyte.



FIGURE 73b. *Drimia uniflora* in fruit at Kirstenbosch. Note the erect open capsules. The seeds are dispersed by wind.



FIGURE 73c. *Drimia uniflora* in habitat near Daniëlskuil in the Northern Cape, growing on banded ironstone cliffs together with *Adromischus trigynus*.



FIGURE 73d. *Drimia uniflora* in cultivation at Kirstenbosch (material from Aasvoëlberg cliffs near Willowmore in the Eastern Cape).