

ALSTERWORTHIA
INTERNATIONAL
THE
SUCCULENT ASPHODELACEAE
JOURNAL



Fig 1. *Aloe sinkatana* x *Aloe ferox*.

Volume 4. Issue 1.

March 2004

ISSN: 1474-4635

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Policy

To promote and facilitate the distribution of information on subjects relative to the genera of the Asphodelaceae family without favour. It follows that articles represent the authors' views, which do not necessarily agree with those of the editor.

Approval to reprint articles will normally be given, but, as some material may be reserved by authors, approval to reprint should be obtained in advance from the editor.

Corrections to Photo Album of Succulents in Color – Vol.3 (2003)

Harry C.K. Mak

The final draft of the book was sent to the publisher in 2000. However, there has been considerable delay in publication. There are 81 new cultivar names published in the book. Some have been published elsewhere, making the new cultivar names invalid. The following summarises those invalid names, as well as some corrections, involving *Haworthia*.

Haworthia cymbiformis (Haw.) Duval 'Lo Bing' is invalid. The correct valid name should be *Haworthia* 'Mori-no-Sono' Hort. ex H.Mays (originally published in *Alsterworthia International* 1(1)4(2001); corrected in *Alsterworthia International* 3(3)2(2003)). [Plate 565, p.156]

Haworthia cymbiformis 'Yu-hung Luk' should be corrected to *Haworthia cymbiformis* 'Yu-Hung Luk'. [ICNCP Art.29.8] [Plate 589,p.162]

Haworthia cymbiformis var. *obtusata* 'Chik-chun Mak' is not a new cultivar as it has been published in *Alsterworthia International* 2(2)3(2002) and corrected to *Haworthia cymbiformis* var. *obtusata* 'Chik-Chun Mak' in *Alsterworthia International* 3(3)14. [Plate 569,p.157]

Haworthia limifolia 'Stripy' is a variegated form of *Haworthia limifolia*. According to ICNCP Art.17.11 "...cultivar epithets may not consist solely of common descriptive (adjectival) words in modern language unless one of the words used may be considered a substantive, or unless the epithet is a recognized name of a colour." This cultivar name is, therefore, invalid. Now, it is corrected to *Haworthia limifolia* 'Stripes'. [Plate 599, p.164]

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Forms of *Aloe aristata*

Harry Mak



Fig. 2.



Fig. 3.



Fig. 4.

Aloe aristata is a very old favourite which was introduced into cultivation in 1700. *Aloe aristata* and also *Aloe polyphylla* are said to be hardy in the UK. The species epithet, *aristata*, means awned referring to the bristle-like leaf tips. Its natural distribution is quite wide, occurring from the central and eastern Karoo to Eastern Cape Province, the Orange Free State, Lesotho and Natal. The characteristic features of this *Aloe* are the presence of white spots/short tuberculate spines on the leaves, particularly on their underside. Very often, the spots are arranged in transverse bands. Another distinct feature is its long, dry leaf tips which turn white with age. Leaf margins have rows of short white teeth. Overall each rosette may be up to 15 cm across with numerous offsets. Flowering is easy for *Aloe aristata* with inflorescences up to 70 cm high. The orange-red flowers are particularly attractive when several inflorescences are in flower at the same time.

According to literature, only 3 varieties were established:

- 1) var. *aristata* – the normal form with bigger leaves about 7-10 cm long.
- 2) var. *leiophylla* Baker – smaller and thinner leaves; upper side of leaves spotless; more slender inflorescences
- 3) var. *parvifolia* Baker – smaller and bluish-green leaves about 4-5 cm long; white spots on the underside of leaves and arranged in double rows

Essentially, var. *leiophylla* is a smooth-leaved form and var. *parvifolia* is a dwarf form. If natural variation is taken into consideration, it is better not to accept them at variety level. At most, they can be considered at forma level if they show uniform distribution in the wild. On the other hand, it is a better to treat them as cultivars if they are widely cultivated. However, it seems both forms are not often seen in cultivation.

Quite a number of unnamed forms of *Aloe aristata* are found in cultivation. Six different forms are recorded in my collection –

- 1) *Aloe aristata* [Ham 693] Fig. 2, page 3.

Obtained in 1997, this normal form is the quickest in growth and it tends to offset freely especially in small pots. The leaf tips readily

Fig. 2. *Aloe aristata* [Ham 693]

Fig. 3. *Aloe aristata* [Ham 1372]

Fig. 4. *Aloe aristata* [Ham 2515]

dry up and turn whitish.

2) *Aloe aristata* [Ham 1372] Fig. 3, page 3.

The main differences from the normal form are the bright green colour and more and bigger white spots. It grows slowly and is slow to offset. There is a keel with teeth on the underside of the leaves. Overall, it is smaller with leaves shorter and thicker. This plant was received in 1997 ex Westfield (UK) as *Aloe aristata* v. *crispata*. This varietal name is doubtful.

3) *Aloe aristata* [Ham 2515] Fig. 4, page 3.

Received as “Tom Blackburn” in 2000 from Dorothy Minors ex Alan Hart, this is a nice and neat plant. It is smaller than the normal form and there are more leaves per rosette. The white spots are numerous and smaller. There is a very conspicuous keel with teeth on the underside of the leaves.

4) *Aloe aristata* (Cathedral Peak form) [Ham 235] Fig. 5.

This is an exceptional and distinct form from Cathedral Peak in Natal. The plant body is blackish green with leaves bigger, broader and shiny. There are very few white spots on the upper side of the leaves. It seems to be the biggest of all. This form is more reluctant to offset. When mature, the leaves are arranged in an inconspicuous spiral manner like that in *Aloe polyphylla*. It has been suggested that this form is a hybrid between *Aloe aristata* and *Aloe polyphylla*. A natural hybrid might be possible as the localities of *polyphylla* (steep basaltic mountainous slope in Lesotho) and this form (Cathedral Peak in Natal) are not very far apart. However, further studies are needed to establish the relationship.

5) *Aloe aristata* ex Japan [Ham 2832] Fig. 6.

This newly acquired form was sent to me by my friend Joseph Cheng in Canada. Its origin is Japan. I expect it is an extreme form selected from the field or from a large quantity of seedlings. Though still young, its beauty can be easily appreciated – large white tuberculate spots and cartilaginous white leaf margins with teeth. But, the white spots are less dense than for other forms. The presence of a keel on leaf undersides is not observed.

6) *Aloe aristata* (Variegate) (Ham 1864) Fig. 7.

(Continued on page 5)



Fig. 5.



Fig. 6.



Fig. 7.

Fig. 5. *Aloe aristata* (Cathedral Peak form) [Ham 235]

Fig. 6. *Aloe aristata* ex Japan [Ham 2832]

Fig. 7. *Aloe aristata* (Variegate) (Ham 1864)

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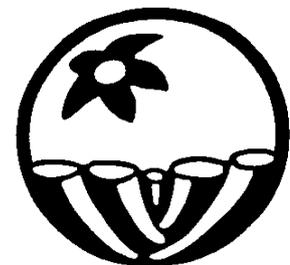
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(Continued from page 4)

This variegated was obtained in 2000 from my friend in Hong Kong ex Japan. The colour of variegation is not sharp, but a bit blurred. Leaves are pale/white green with a few dark green lines running from base to tip. Due to its inherited weakness, it cannot stand strong sunlight in summer. Also, it is smaller than normal. Growth is expected to be slow.

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Fig. 8



Fig. 9



Fig. 10.

Revisiting exploiting the potential of roots

Harry Mays.

Using roots as cutting to produce offsets was described in *Alsterworthia International* 3(3)20 (2003). Detached root were potted up with the cut surface protruding above the compost to reduce the possibility of rot. The cut surface was always at the top of the root, the older part near to the base of the rosette, with the younger part, the root tip, at the base. This is the normal orientation of roots in pots. The root tips grow down, sometimes at an angle, sometimes more or less straight. It therefore seems logical that a root cutting should be placed in the same orientation, as any offsets should emerge around the (old) cut surface. This is not necessarily so!

When an *Haworthia truncata* was recently selected for repotting the tips of the leaves of a small "seedling" were seen in the gravel near the side of the pot, but, when it was unpotted and the compost shaken off, it became obvious that two small offsets were growing from an almost, but not quite, complete break in a root a little distance from the end. Figure 8 shows the two offsets, the root from which they emerged still firmly attached to the main head, and the end of this root broken and folded back on itself with no tip, which may have either broken off when previously repotted or subsequently rotted

When an *Haworthia* grows, the centre rises, the new leaves spread out then eventually move down, old leaves at the base die back, and the overall stem length increases. This is more noticeable in some species than in others, but it does occur in all of them even though it is imperceptible in some. *Haworthias* which have contractile roots may seem never to gain any height. A consequence of this form of growth is that the length of

the stem portion to which roots are attached gradually increases whilst that to which the leaves are attached shows little or no gain. New roots are mainly produced around the base of the rosette and old roots lower down die back. Not infrequently the base of the root stem portion also dies back (The dead tissue is best removed when repotting.)

In figure 10 a multi headed *H. translucens (gracilis) ssp. tenera* 'Anemone' has new roots growing around the base of the rosettes. Old roots are virtually absent from the main stem base. In this particular example the central column to which the roots are attached is still quite long, though some die-back at the base has taken place. The plant was grown in a pot with vertical sides. The long, new root grew out at an angle, but when it hit the side of the pot it was deflected down. When plants are grown in pots with sides which slope inwards towards the base, outward growing new roots may be deflected up, not down, when they hit the side of the pot. This is what happened with the *Haworthia truncata*. The root producing the offsets was curving upwards when it was originally unpotted. These thick roots have little flexibility. When it was repotted, attempts to depress the upward bent root and cover it with compost to make it grow down seem to have resulted in the end being partially severed and bent back. In this case, the fortunate result was the production of two offsets, not rot. The root was still attached to the plant, but this incident does seem to suggest that it does not really matter whether you plant a root cutting upside down or not as it may still produce offsets either way. Perhaps this is not surprising as it is well known that dicotyledons can be grafted upside down for offset production. *Haworthias* are, of course, monocotyledons.

Fig. 8. *Haworthia truncata* with two small, root-end offset.

Fig. 9. Root with offsets in fig. 7 viewed from the opposite side.

Fig. 10. *H. translucens (gracilis) ssp. tenera* 'Anemone' with new roots around the base of the rosette and stout underground stem portion showing loss of roots at the base.

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Fig. 11. *Haworthia truncata* (variegated)



Fig. 12. *Haworthia truncata* v. *maughanii* (variegated)



Fig. 13. *Haworthia bayeri* (variegated)



Fig. 14. *Haworthia pygmaea* hybrid (Variegated).



Fig. 15 *Haworthia attenuata* (Variegated)

Variegated Haworthias

Harry C.K. Mak

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Variegated haworthias are widely cultivated and treasured in Japan. A nice form may be priced over £100. Names have been given to individual variegated clones. However, because of their minor differences and variations, they cannot be considered as cultivar names. Many different *Haworthia* variegates (191 in total) have been illustrated in Tony Sato's three books – "Nishiki Succulent Handbook-1999"(141), "*Haworthia* Handbook – *Haworthia truncata* family 1993 (34)" and "*Haworthia* Handbook – *Haworthia maughanii* family 1995 (16)". The front cover of the former book is filled with 9 different types of *Haworthia maughanii* variegates whereas the back cover is filled with 15 different types of *Haworthia truncata* variegates! If we consider minute differences, each individual plant is different and unique and hence the number of variegates is endless. Variegates are one of my special favourites. I am very fortunate to have been a friend of a Japanese lady, Mrs Hikako Omori since 1998. She is an experienced succulent grower and the editor of the Journal of the Japan Succulent Society. I must thank her for her generosity in sending me many rare and nice variegated haworthias including some *Haworthia truncata* and *Haworthia truncata* v. *maughanii* variegates. To date, I have about 70 different variegated haworthias in my collection. All of the following described here were sent by Mr. Omori some years ago.

1) *Haworthia truncata* (variegated) [Ham 2431] - obtained in 2000. Fig. 11.

This is an exceptional, rare variegate with red coloration. It is still a young plant with 7 leaves and is only 4cm across. However, the leaves are quite thick – 8mm! The growth is extremely slow but steady. The leaves are flushed with pinkish, longitudinal bands. Care must be taken to protect it from direct strong sunlight. Root-cuts and offsets are the possible means of propagation.

2) *Haworthia truncata* v. *maughanii* (variegated) [Ham 2336] Fig. 12.

Obtained in 1999, this wonderful variegata is growing well at last and has produced 12 leaves, double the original number. The plant is now about 4cm across. The windows are quite large (1cm across) compared with its small size. In the first 2 years, it was just struggling to survive without any increase in the number of leaves. Afterwards, it established well and grew to its full potential. Growing normal *maughanii* is not easy. It can be imagined how difficult it is to grow variegated *maughanii*. It is quite challenging to keep it for long and grow it nicely. It is joy and genuine satisfaction for succulent growers to achieve this. Over recent years, I found that the expanded small clay granules used as 'cat litter' are really very good to establish new and difficult plants. They encourage the growth of roots. The pattern of variegation in this plant is distinct and sharp with yellow stripes running from leaf base towards the window.

3) *Haworthia pygmaea* hybrid (variegated). [Ham 2426] Fig. 14.

Though labelled as *Haworthia pygmaea* variegated, it does not appear to be so. Most probably it is a hybrid of *pygmaea*. I received this quarter plant in 2000. As variegates are quite expensive in Japan, a whole plant is usually bought and cut into four quarters and shared amongst growers. It is in fact one of the methods of propagation. Very often, three to four offsets can be obtained from each quarter. Unfortunately, for this quarter, only one plant was produced. It took 2 years to grow back to its original full size. This is an attractive, large-growing, creamy yellow variegata. The size may reach up to 10 cm across. It seems this does not readily offset. Beheading or cutting into quarters are two possible ways of propagation.

4) *Haworthia bayeri* (variegated) [Ham 1072] Fig. 13.

Obtained in 2000, unlike Ham 2426, this very slow-growing variegata gave four offsets from its original quarter plant. The lines on its leaves are normally unbranched. The yellow stripes are relatively evenly distributed. With age, the size of the plant is expected to reach 10cm across. It is fortunate that the pattern of variegation in the offsets are far better than in their parent. From experience, variegation in plants may disappear at some time. Later better variegation may reappear in the offsets. Occasionally, variegation may appear very unexpectedly in some plants in my collection! This is the joy of growing variegates. However, I have raised many haworthias (several thousands) from seeds but, surprisingly, I have seen only one single variegated seedling!

5) *Haworthia attenuata* (variegata of a super, large, white-banded form) [Ham1888] Fig. 15.

This form of *attenuata* has been very popular in Japan for a long time ago. The conspicuous thick white bands on the back of the leaves are very distinct. This feature combined with its variegation further adds to the gracefulness of the plant. The variegation here is sharp with colour from white to cream to yellow. The colour depends on the season and growing conditions. This is a slow-growing plant and is unwilling to offset. To propagate the plant, beheading may be the best method.

6) *Haworthia attenuata* v. *radula* (Variegata). [Ham 3037] Fig. 17.

This nice, long-leaved plant was obtained in 2001. The thin, long and spreading leaves make the plant very different from other clones. However, as a drawback, it has to be carried around with extreme care to prevent its slender leaves from breaking. The leaf surfaces are covered with very small, whitish dots. The plant looks particularly nice with its evenly distributed variegation. Its growth rate is rather fast compared with other variegates. An additional 9 leaves were produced in a



Fig. 16. *Haworthia viscosa* (variegated)

year! The bright yellow coloration makes the plant stand out at first sight.

7) *Haworthia viscosa* (Variegated) [Ham 2243] Fig. 16.

This variegate is particularly surprising and exciting for me. When obtained in 2000, the variegation on the plant was too faint and difficult to discover. Only one or two cream fine lines could be seen with patience. I expected it would revert to normal form. However, the richness of variegation was developed gradually unseen to me. Only recently did I discover that its variegation has developed to a nearly ideal pattern. This again illustrated the joy of growing variegated plants. Things happen unexpectedly! In Japan, the same plant is labelled as “Ryujo Nishiki”. It is still very rare in collections even in Japan. Propagation is again by beheading to encourage the growth of offsets.

8) *Haworthia ‘White Star’* H.C.K. Mak n.cv. [Ham 2350] Fig. 18.

This white variegate is an old and popular favourite in Japan. The variegation is cleaner, clearer and nicer than in the similar plant normally labelled as “*Haworthia tortuosa* v. *curta* variegated”. When obtained in 1999, it was labelled as *Haworthia tortuosa* variegated. However, as the leaves are not arranged in 3-spiral rows, it may not be the true *tortuosa*. Most probably, it is a garden hybrid or very old species that has been extinct in the wild. Leaves are whitish with dark green lines running from base to tip and are arranged in a 5



Fig. 17 *Haworthia attenuata* v. *radula* (variegated).



Fig. 18. *Haworthia* ‘White Star’

to 6-ranked spiral. Each rosette is about 7 cm high and 8 cm across. Leaves are not particularly thick (4mm), length up to 4 cm and width up to 2 cm. Offsetting is easy in this variegate. As this cultivar has been in cultivation for a long time and is nice and distinct, it deserves a proper cultivar name, designated here as ‘White Star’.

Alsterworthia International Seed List

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GENERAL INFORMATION

"NEW !" means new in this list, not necessarily a new species.

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CD-ROM

Photographs of many of the species on this list are included on the 2004 CD. Please see page 14.

Main list.

ALOE (See page 13 for CITES/rare species)

- 2697. Aloe abyssinica JL73 (and 50 seeds)
- 2698. NEW! Aloe acutissima v. antanimora (Madagascar)
- 2699. Aloe affinis JL75
- 2700. NEW! Aloe africana (and 50 seeds)
- 2701. †Aloe (Chamaealoe) albiflora JL78 CITES1 Very small

- quantity.
- 2702. NEW! Aloe alooides (and 50 to 500 seeds)
- 2703. Aloe andongensis JL 5960
- 2704. Aloe ankabarensis (and 50 seeds) NEW SPECIES !
- 2705. †Aloe aristata JL82 hardy to -10°C One packet only!
- 2706. Aloe bakeri JL84
Aloe barbadensis (=see A. vera)
- 2707. Aloe bellatula JL85 CITES1 (artificially propagated)
- 2708. Aloe branddraaiensis (Branddraai, Transvaal)# (and 50 seeds)
- 2709. Aloe brevifolia JL 87
- 2710. NEW! Aloe brevifolia v. depressa JL
- 2711. NEW! Aloe broomii (and 50 seeds)
- 2712. Aloe buhrii (and 50 seeds)
- 2713. Aloe cameronii v. dedzana
- 2714. †NEW! Aloe camperi (= eru) JL One packet only!
- 2715. †NEW! Aloe capitata
- 2716. NEW! Aloe capitata v. gneissicola (and 50 seeds)
- 2717. Aloe castanea
- 2718. Aloe chabaudii JL962 (and 50 seeds)
- 2719. Aloe ciliaris (and 50 seeds)
- 2720. Aloe claviflora (South Africa) # (and 50 seeds)
- 2721. Aloe commixta JL (ex Worcester)# (and 50 seeds)
- 2722. Aloe comosa (and 50 seeds)
- 2723. Aloe comptonii
- 2724. †Aloe cremnophila JL93 Very small quantity.
- 2725. Aloe cryptopoda
- 2726. Aloe x delaetii JL95 (and 50 seeds)
- 2727. Aloe deltoideodonta
- 2728. Aloe deltoideodonta v. candicans
- 2729. NEW! Aloe dhufarensis (and 50 seeds)
- 2730. Aloe dichotoma (Upington, SWA)#
- 2731. NEW! Aloe dichotoma (Gamsberg Crater, RSA)#
- 2732. Aloe distans JL767
- 2733. Aloe dumetorum JL100 (Kenya)# (and 50 seeds)
- 2734. Aloe dyeri
- 2735. Aloe elegans
- 2736. Aloe ellenbeckii x greatheadii
- 2737. Aloe falcata
- 2738. Aloe ferox (and 50 to 500 seeds)
- 2739. Aloe ferox (near Stormulei, RSA)#
- 2740. Aloe fosteri JL106 (and 50 seeds)
- 2741. NEW! Aloe framesii (N. Port Nolloth, RSA)#
- 2742. Aloe gariensis JL3309 (Umdaus, RSA)# (and 50 seeds)
- 2743. Aloe gariensis (Orange River, South Africa)# (and 50 seeds)
- 2744. Aloe gariensis (Beauvallon, Richtersveld)#
- 2745. Aloe gobuligemma (and 50 to 500 seeds)
- 2746. Aloe grandidentata JL110 (and 50 seeds)
- 2747. Aloe greatheadii (and 50 seeds)
- 2748. Aloe greenii JL111 (and 50 seeds)
- 2749. †Aloe harlana JCD
- 2750. Aloe helenae CITES 1 (and 50 seeds)
- 2751. Aloe hereroensis JL101 (and 50 seeds)
- 2752. Aloe hereroensis (150 km E. Upington)#
- 2753. †Aloe howmanii Very small quantity.
- 2754. NEW! Aloe humilis (and 50 seeds)
- 2755. NEW! Aloe imalotensis (and 50 seeds)
- 2756. †NEW! Aloe itremensis (Massif Itremo, Madagascar) #
- 2757. †Aloe jucunda JL 115 very limited quantity.
- 2758. †NEW! Aloe juvenna JL115 One packet only !
- 2759. Aloe karasbergensis (and 50 seeds)
- 2760. Aloe khamiesensis JL3114 (Carolusberg, RSA)# (and

- 50 seeds)
2761. *Aloe khamiesensis* JL3800 (Okiep, RSA)# (and 50 seeds)
2762. *Aloe khamiesensis* JL3942 (S. Steinkopf, RSA)# (and 50 seeds)
2763. *Aloe khamiesensis*
2764. †NEW! *Aloe kilifiensis* Lavr.12298 (Kilifi, Kenya)#
Very limited quantity
2765. *Aloe krapohlina* (in-situ, RSA)# (and 50 seeds)
2766. NEW! *Aloe laeta* (and 50 to 500 seeds)
2767. † *Aloe littoralis* (and 50 seeds)
2768. *Aloe maculata* (RSA)# (and 50 seeds)
2769. *Aloe marlothii* (magnificent clone orange flowers)
(and 100 to 1000 seeds)
2770. *Aloe marlothii* (and 50 seeds)
2771. *Aloe marlothii* (and 50 seeds)
2772. *Aloe melanacantha* (South Africa)#
2773. *Aloe melanacantha* JL3808 (Rd Springbok-Kleinzee,
RSA)# (and 50 seeds)
2774. *Aloe melanacantha* JL3839 (N. Kommagas, RSA)#
(and 50 seeds)
2775. *Aloe microstigma* JL121 (and 50 seeds)
2776. *Aloe microstigma* (Worcester, RSA)#
2777. *Aloe milotii* JL122
2778. *Aloe mudenensis* (Muden, Natal, RSA)# (and 50 seeds)
2779. *Aloe mutabilis*
2780. *Aloe ngobitensis*
2781. *Aloe niehburiana* JL127 (Al Barh, Yemen) +JAA (and
50 seeds)
2782. †*Aloe officinalis* JCD
2783. NEW! *Aloe ortholopha* (Zimbabwe) (and 50 to 500 seeds)
2784. *Aloe pachygaster*
2785. *Aloe peglerae* (and 50 seeds)
2786. NEW! *Aloe plicatilis* (and 50 to 500 seeds)
2787. NEW! *Aloe pluridens* (and 50 to 500 seeds)
2788. NEW! *Aloe pretoriensis* (and 50 seeds)
2789. *Aloe ramosissima* JL3628 (W. Kolke, RSA)# (and 50 seeds)
2790. *Aloe rauhii* JL132 (Madagascar)# CITES1 (artificially
propagated)
2791. *Aloe reynoldsii* JL132 (and 50 seeds)
2792. *Aloe* aff. *rubroviolacea* ?
2793. *Aloe sabaea* (Karia, Yemen)# (and 50 seeds)
2794. *Aloe saponaria* JL136
2795. †*Aloe schomeri* (Fort Dauphin, Madagascar)# Small
quantity available.
2796. *Aloe secudiflora* JL125 (grey Aloe, superb spines)
(Namanga, Kenya)# (and 50/500 seeds) RARE
Introduced to cultivation in 1983 by Cactus-Aventures
2797. *Aloe sinkatana* JL137 (small Aloe pretty yellow
flowers) (and 50 seeds)
2798. *Aloe sladeniana* (Namibia) RARE
2799. *Aloe spectabilis* (and 50 seeds)
2800. NEW! *Aloe speciosa* (and 50 to 500 seeds)
2801. †*Aloe spinosissima* Very small quantity.
2802. *Aloe striata* JL128 et al. (and 100 to 1000 seeds)
2803. *Aloe suarezensis* (Montagne des Français, Diego
Suarez, Madagascar)#
2804. *Aloe succotrina* JL140 (and 50 seeds)
2805. †*Aloe suprafoliata* Very small quantity.
2806. †NEW! *Aloe tenuior*
2807. *Aloe thraskii* (Mkambuki, Nata.)# (and 50 to 500 seeds)
2808. *Aloe tugenensis* ? JL141 (unspotted, not caespitose),
(Nakuru, Kenya)#
2809. †*Aloe turkanensis* JL 142 (Nakuru-Loruk, 950m alt.,
Kenya)#
2810. NEW! *Aloe umfoloziensis* JL143
2811. *Aloe vaombe* (Madagascar)#
2812. NEW! *Aloe vaombe* (W. Behara, Madagascar)#
2813. NEW! *Aloe vaombe* (E. Tranoroa, Madagascar)#
2814. *Aloe variegata* JL144 (and 50 seeds)
2815. *Aloe vera* (= *A. barbadensis*) JL67 (and 50 seeds)
2816. *Aloe zebrina* JL139 (Kalahari 1978, Botswana)# (and
50 seeds)
2817. *Aloe* sp nova Nakuru JL83/1 (spots "chromosomiques",
caespitose, compact (Kenya)# (and 50 seeds) discovered
by Joël Lodé
2818. *Aloe* sp Nakuru JL76/2 (and 50 seeds) discovered by
Joël Lodé
2819. †*Aloe* sp ex Tafira Very small quantity.
2820. *Aloe* aff. *globuligemma* (and 50 to 500 seeds)
2821. *Aloe* aff. *greenwayi* (Tanzania)# fl. jaunes (and 50
seeds)
2822. †*Aloe* aff. *zebrina* JL Very small quantity.
2823. *Aloe* sp Kenya JL (flowers salmon)# discovered by
Joël Lodé
2824. *Aloe* sp (and 50 seeds)
2825. *Aloe descoingsii* x *rauhii* JL97 (superb hybrid !)
2826. *Aloe globuligemma* x *variegata*
2827. †*Aloe peglerae* x *claviflora* Very small quantity
2828. *Aloe* x *spinosissima* (= *humilis* X *arborescens*)
2829. *Aloe striata* x *saponaria*
2830. †*Aloe* sp fl. almost white fl. JL72
2831. *Aloe* sp res. *sabaea* JL
2832. *Aloe* mix (and 100 to 1000 seeds)
- ASPHODELUS**
2866. †*Asphodelus fistulosus* (W. Hellin Spain, RSA)# Very
small quantity.
2867. *Asphodelus microcarpus* (Masca, Tenerife)#
- ASTROLOBA**
2869. *Astroloba pentagona* JL157 (and 50 seeds)
- BULBINE**
2894. NEW! *Bulbine alooides*
2895. *Bulbine annua* (possible par 50 /seeds)
2896. †*Bulbine caulescens*
2897. †*Bulbine fallax* Very small quantity.
2898. *Bulbine frutescens*
2899. *Bulbine haworthioides* (Vredendal, Afrique du Sud)#
Very small quantity
2900. *Bulbine lagopus* (and 50 seeds)
2901. *Bulbine vitrea* JL2985 (Carolusberg, RSA)#
- GASTERIA**
3167. *Gasteria acinacifolia* JL5937 (and 50 seeds)
3168. *Gasteria* (*nitida* v.) *armstrongii*
3169. *Gasteria* (*bicolor* v.) *liliputana* JL373
3170. †*Gasteria brachyphylla* JL5956
3171. *Gasteria caesplitosa* JL368
3172. *Gasteria candicans* v. *glabrata* JL370
3173. NEW! *Gasteria conspicua* JL369
3174. *Gasteria ellaphiae* (Paul Sayer Dam, Type location)#
3175. NEW! *Gasteria ellaphiae* EJV11150 (Kouga Dam, RSA)#
3176. *Gasteria excelsa*
3177. *Gasteria glomerata*
3178. *Gasteria maculata*
3179. *Gasteria minuscula* JL374 (and 50 seeds)
3180. *Gasteria pillansii* J (Bullhouer)#
3181. NEW! *Gasteria plicatilis* JL376
3182. †*Gasteria prolifera*
3183. *Gasteria trigina* JL378 and 50 seeds)
3184. NEW! *Gasteria verrucosa* JL379
3185. *Gasteria verrucosa* v. *major* JL380
3186. *Gasteria* mix (+ species not listed) (and 50 seeds)
- HAWORTHIA** (Involuntary hybridisation possible, ex
100 year old collection of Jardin des Plantes de Nantes)
3207. *Haworthia altilinea* JL409

3208. NEW! *Haworthia asperula* JL411
 3209. *Haworthia attenuata* JL412
 3210. *Haworthia attenuata* v. *britteniae* JL412
 3211. *Haworthia attenuata* v. *clariperla* JL415 (and 50 seeds)
 3212. *Haworthia chloracantha* v. *denticulifera* JL418
 3213. †*Haworthia coarctata* One packet only !
 3214. †NEW! *Haworthia coarctata* v. *adelaidensis* Very small quantity.
 3215. † *Haworthia cymbiformis* JL425 One packet only !
 3216. *Haworthia cymbiformis* v. *agavoides* JL426
 3217. *Haworthia cymbiformis* v. *compacta* JL427
 3218. † *Haworthia cymbiformis* v. *incurvula* JL428. Very small quantity.
 3219. †*Haworthia emelyae* f. *picta*. One packet only !
 3220. *Haworthia fasciata* v. *browniana* JL435.
 3221. *Haworthia fasciata* v. *concolor* JL5938
 3222. *Haworthia glabrata* JL436 (and 50 seeds)
 3223. *Haworthia glauca* v. *armstrongii* JL437 (and 50 seeds)
 3224. † *Haworthia herbacea* Very small quantity.
 3225. *Haworthia* x *kuentzii* JL442 (and 50 seeds)
 3226. † *Haworthia limifolia* JL443 Very small quantity.
 3227. †*Haworthia margaretifera* P Very small quantity.
 3228. *Haworthia margaretifera* v. *minor* JL445
 3229. †NEW! *Haworthia marumiana* JL
 3230. *Haworthia marumiana* v. *batesiana* JL416
 3231. NEW! *Haworthia maughanii*
 3232. *Haworthia minima* JL448
 3233. *Haworthia minima* (*margaretifera* f.) JL (and 50 seeds)
 3234. †NEW! *Haworthia mucronata* JL452 One packet only !
 3235. †NEW! *Haworthia planifolia* JL457
 3236. NEW! *Haworthia pumila* (Bonnievale, RSA)#
 3237. †NEW! *Haworthia pygmaea* JL569
 3238. † *Haworthia radula* JL462.
 3239. †NEW! *Haworthia reinwardtii* v. *kaffirdriftensis* JL466 One packet only !
 3240. *Haworthia reticulata* v. *hurlingii* JL469 (and 50 seeds)
 3241. † *Haworthia retusa* v. *dekenahii* JL471 Very small quantity.
 3242. *Haworthia subrigida* JL475 (and 50 seeds)
 3243. *Haworthia tortuosa* JL478
 3244. *Haworthia translucens* JL479 (and 50 seeds)
 3245. NEW! *Haworthia truncata*
 3246. NEW! *Haworthia venosa* (*tessellata*) v. *parva* JL477
 3247. † *Haworthia viscosa* JL483 One packet only !
 3248. *Haworthia* sp JL401/03 (aff. *fasciata*, leaves light yellow-green)
 3249. *Haworthia* sp JL403/05
 3250. *Haworthia* sp JL406/08 (aff. *fasciata*) *Haworthia* sp. JL406/08 (aff. *fasciata*)
 3251. †NEW! *Haworthia* sp JL407/09 One packet only !
 3252. †NEW! *Haworthia* x *maughanii* x *obtusata* x *pilifera* JL484 One packet only !
 3253. *Haworthia* mix (+ non-listed species) (and 100 seeds)

LOMATOPHYLLUM

3415. NEW! *Lomatophyllum prostratum* (ex Uhlig)
 3416. *Lomatophyllum prostratum*
 3417. *Lomatophyllum tormentorii*

ALOE RARE OR CITES 1 LIST.

- 1.50 Euros per packet. (CITES1 seeds are artificially propagated)
 4097. *Aloe bowiea* JL86 et al. (Port Elizabeth, RSA)#
 4098. †NEW! *Aloe haworthioides*
 4099. *Aloe haworthioides* v. *aurantiaca* JL5890 Very small quantity
 4100. *Aloe parvula* JL5900 et al.
 4101. NEW! *Aloe trachyticola*

Alsterworthia International Hybrid and Cultivar Special Issue.

Special issues of Alsterworthia International are being prepared for hybrids and cultivars of the Asphodelaceae. Aloes, gasterias and haworthias will be the main genera because of their popularity, but related genera are not excluded.

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The success of this venture will depend very largely on the support it receives in the preparatory stage from both members and non-members. Good photographs are required with as much supporting information as can be supplied. Members and non-members are invited to send photographs to the editor, Harry Mays, for possible inclusion in the special issues. Please do not put off sending photographs because you have only a few, or little supporting information, or because you think others may have sent in photographs for the same cultivars. Your photographs may be better and different photos of the same cultivar will allow variability and duplicate names to be determined. Do please support this venture. A free copy of the Special Issue will be sent to everyone whose photographs are included. The first special issue will be published this year, by the autumn if sufficient material is available.

Photographs may be sent in almost any form: slides, prints, disks and e-mail attachments. If you are sending e-mail attachments please contact Harry Mays in advance so that steps can be taken to limit down load time.

Harry Mays
 Editor, Alsterworthia International
 Woodsleigh, Moss Lane, St Michaels on Wyre,
 Preston, PR3 0TY, UK
 E-mail: hmays@freenetname.co.uk

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- Illustrated index of Cactaceae species (with thumbnails),
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- Illustrated index of Succulent Genera.
- Illustrated index of Succulent Species (with thumbnails),
- Etymology of Cactaceae & Other Succulent Genera
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- Illustrated seed catalogue 2004, with photos to identify "ssp."
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- NEW! the illustrated index of Bromeliaceae species (with thumbnails),
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Gasteria carinata var. retusa

Russell Scott
39 Wellington St., West Footscray, Vic 3012, Australia
russell.scott@roads.vic.gov.au

The type plant of *G. carinata* var. *retusa* comes from the farm Orange Grove, figure 19. I have grown this collection, from a leaf cutting, for around seven years. To state the obvious, it displays the typical characteristics of the variety. That is, when young the leaves are thick, succulent and wide with prominent



Fig. 19. *G. carinata* var. *retusa* Orange Grove

produced, the plant usually needs to be quite large to do so. Offsets are not produced in any large number so the



Fig. 20. *G. carinata* var. *retusa* De Wet. ISI 1337.

bandings of relatively large raised white tubercles. The leaf surface is shiny and tubercles also run along the leaf margins. This banding is particularly pronounced on the underside of the leaves. With age, the leaves become thinner, the plant takes on a fan shape, and tubercles appear to become less pronounced. Plants turn reddish brown when stressed in the sun and, while offsets are

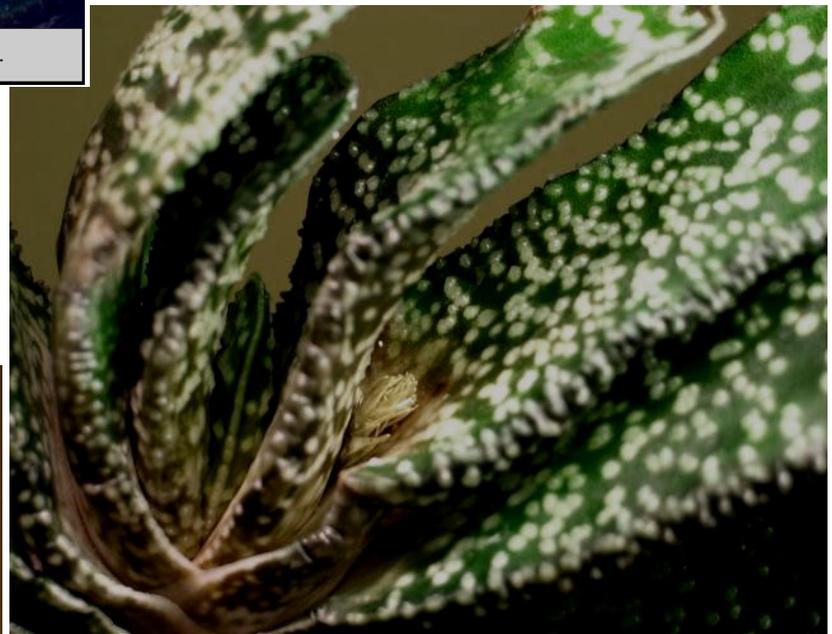


Fig. 21. *G. carinata* var. *retusa*. Van Breda



Fig. 22. *G. carinata* var. *retusa*. Nonna

preferred propagation method is by leaf cuttings, which produce offsets relatively quickly, but commonly only two or three.

G. carinata var. *retusa* was first recorded as being collected in 1924 from Keerom Buttress. Therefore, it has potentially been available for collectors for nearly 80 years. However, perhaps the most common material in many collections, available from a number of commercial nurseries, are plants distributed by the

International Succulent Introductions in 1982 as *G. disticha* (ISI 1337) collected from De Wet, figure 20, page 15. Orange Grove is actually located at De Wet (about 8 km north of Worcester along the N1). Therefore, plants from these two locations are sampling populations in very close proximity.

ISI 1337 instigated a considerable amount of discussion in *Haworthiad* (Vol. 8(3); Vol. 8(4); Vol. 9(1); and Vol. 9(2)) when Bryan Makin correctly identified it, not as *G. disticha*, but as *G. carinata* var. *retusa*. It is also well described in these discussions. Perhaps all that I can add is that the De Wet plants, as would possibly be expected from collections in close proximity, are very similar to the Orange Grove plants.

It is of interest to realise that *G. disticha* grows in the same area as *G. carinata* var. *retusa*. The *G. disticha* from this area are of a similar size and have a similar growth form to *G. carinata* var. *retusa* with both growing to around the same size, both having broad, retuse leaves with wavy edges and both flowering at the same time (i.e. late winter/early spring). *G. disticha* is also the commonest plant in this area by far. In essence, *G. carinata* var. *retusa*, in a number of respects, looks like one of these distichas, but with tubercles. With this physical and geographic similarity in mind, it is not a giant step of the imagination to conjecture a relationship between these two species. It would be an interesting exercise to check the genetic similarities.

With two species growing together and flowering at the same time, intermediates/hybrids are obvious possibilities. Ernst van Jaarsveld, in his 'Gasterias of South Africa', reports a collection that is intermediate and has potentially hybrid origin. A conjectured intermediate form in cultivation is discussed and pictured in *Haworthiad* 14(1).

P. van Breda also collected in this area, although he gives the location more generically as Worcester, figure 21 page 15. The van Breda material, which I have grown for about 10 years, is indistinguishable from the De Wet material. This may simply be because it was collected from the Orange Grove/De Wet locality, or due to the fact that all the var. *retusa* material from this area are very similar. This plant, possibly due to age related stress (older plants have thinner leaves so potentially less reserves) has a tendency to turn more red/brown than other var. *retusa* in my collection.

Driving from Worcester/De Wet to Robertson during spring, you can at times spot *G. disticha* flowers from the road in unfarmed or rocky locations. The locations of var. *retusa* are in the mountains to the left of the road. The rather obvious *H. pumila* (*maxima*) also grows here. About 10km along the De Wet – Robinson road is Nonna. Plants from this location are almost indistinguishable from the De Wet/Orange Grove collections, exhibiting very distinct banding and prominent tubercle formation even when very young, fig. 22.

I assume that Keerom Buttress, the original collection

site, is near Keerom dam, which (as the crow flies) is around 10km due east of De Wet. Therefore, what we have with the above *G. carinata* var. *retusa*, are collections from a very limited (around 10km radius) geographical area (although obviously, there may be unexplored regions and collections unknown to me). This in itself potentially limits variability, but also raises an obvious concern about long-term viability (although their safety is likely to be assured simply by the ruggedness and general inaccessibility of the terrain). It is noted that there is another reported collection from around Heidelberg (about 150km from the De Wet location). However, I have not seen plants from this collection.

Plants can be propagated from seed or offsets, although most of my plants have failed to offset. Propagation from leaves is relatively easy although only two or three offsets are commonly produced per leaf. Old plants tend to grow into fan shapes, with the leaves becoming progressively thinner. When enough courage can be worked up, they are best beheaded and re-rooted at this stage to instigate the more attractive youthful look and vigour of younger plants (and to allow propagation).

Seedlings and offsets can vary from the parent plants. I have some small, perhaps two to three year old, offsets from a leaf propagation of a highly tubercled plant (van Breda), which so far has smooth leaves with no tubercles and a seedling about the same age from De Wet also with no tubercles, although the parents were quite normal. They present no difficulties in cultivation and for hybridists they are easy to hybridise with. Amongst the hybrids I have created none so far show potential for keeping as a nice cultivar.

Aloe sinkatana x *Aloe ferox*

(Front cover photograph: Andy de Wet)

In search of the perfect *Aloe*, Andy de Wet, South Africa has spent some 30 years hybridising aloes. He has had some amazing results, with a wide range of flowers, with an array of colours. They are truly magnificent.

Generally the flowers of hybrids are more colourful than the species and they often flower longer. *Aloe sinkatana* x *Aloe ferox* is one of Andy's hybrids. It is a smallish plant which flowers several times a year. The flowers are a striking yellow.

A review of Flora Zambesiaca vol. 12 part 3,

[G.V.Pope (ed.) RBG Kew, London, 2001. £18]

Julian M. H. Shaw.

Botany Dept., Royal Horticultural Society

As the need to provide a replacement to the *Flora of Tropical Africa* (FTA), published between 1868-1934, became felt a number of major floristic projects got under way. *Flora Zambesiaca* was conceived to provide an identification manual for all the vascular plants encountered within Mozambique, Malawi, Zambia, Zimbabwe, Botswana and the Caprivi Strip, which countries are adjacent to the Zambezi river, whence the name. Volume 1 part 1 appeared in 1960 and there has been a steady stream of parts ever since, with either completed volumes or parts of all 12 volumes (and another un-numbered part dealing with Pteridophytes) now published. There are also supplementary works such as vegetation maps and a bibliography available. A derived work in Portuguese, *Flore de Moçambique*, is also being produced. All of which continues a long tradition of Anglo-Portuguese botanical collaboration.

The present part includes the families *Hypoxidaceae*, *Tecophilaceae*, *Asphodelaceae*, *Aloaceae* and *Hemerocalidaceae*. The *Asphodelaceae* by S. Kativu treats *Kniphophia* (8 spp.); *Trachyandra* (5); *Bulbine* (7); *Jodrellia* (1). *Aloaceae* by Susan Carter treats *Haworthia* (1, *H. limifolia* var. *limifolia*), *Chortolirion* (1, *C. angolense* treated in the broad sense), *Aloe* (53 spp, 17 infraspecific taxa, and at least 6 natural hybrids are noted informally).

Illustrations are provided in the form of botanical line drawings to a very high standard by Pat Haliday, at least one per genus is the general policy. Fourteen taxa on nine full page plates are illustrated for *Aloe*, mostly reprinted from *Kew Bulletin* or *Flora of Tropical East Africa* (FTEA), but 3 new plates; t.16, depicting *A. greatheadii* & *A. carnea*; t.20, *A. cameronii* vars. *cameronii*, *dedzana* & *bondana*; t.21, *A. cryptopoda* & *A. pienaarii*, are included. Unlike FTEA there are no colour plates or photographs

Although there is still much to learn about the flora of this region, significant progress has been made. *A First check list of the herbaceous flora of Malawi* by B. Binns (1968) lists 19 species and 1 variety of *Aloe*. *Flora Zambesiaca* now records from Malawi, 13 spp, 1 subsp, and 5 varieties. Several of which represent new records as a number of Binns' names are now synonyms. The F.Z. account of *Aloe* does provide full critical analysis of Binns' names; for example Binns' reference to *A. cf. lateritia* is listed as a synonym of *A. mzimbana*. It also provides cross references to other works on succulents including, Court, *Succulent flora of Southern Africa*; Hargreaves, *Succulents of Botswana* and Glen & Hardy's account of *Aloe* in *Flora of Southern Africa* vol. 5. A useful guide for the successful preparation of herbarium specimens of *Aloe* is also included.

With regards to the 3 taxa of *Bulbine* in Binns' Malawi Check list, *B. abyssinica*, *aloooides* and *asphodeloides*, it would appear that the inclusion of *B. aloooides* (a species confined to the Western Cape) copied from *Flora of Tropical Africa* was based on either cultivated material or as seems most likely a misidentification, perhaps of *B. latifolia* which is recorded from Mt. Chiradzulu in S. Malawi, based on a Meller specimen at Kew collected in 1861. This is also the region that Binns gives as a locality. In either case the record of *B. aloooides* is not commented on in F.Z., which one would expect, especially since in Pope & Brummitt, (1991) *A*

Bibliography for Flora Zambesiaca the Binns' Malawi Check list is marked with an asterisk as 'a reference in which a relevant name appears must be cited in a Flora Zambesiaca account.' The name does not appear in the index and I was unable to find it in the text. Kativu does comment that "the delimitation of *B. latifolia* is still in question, and the name *B. latifolia* is here applied in the broad sense. Research being done in South Africa suggests that the Flora Zambesiaca material may be more correctly referred to the *B. natalensis* complex."

B. asphodelioides is not recorded for Malawi in F.Z. and once again there is no comment on the Binns record. Possibly the record refers to *B. abyssinica* with which that species has been confused, particularly in FTA, as noted in the synonymy provided in F. Z. under *B. abyssinica*. Thus the three *Bulbine* taxa reported from Malawi by Binns have been reduced to two in F. Z., *B. abyssinica* and *latifolia*. However there is the new record of *Jodrellia fistulosa* and possibly another *J. sp.* pending further research. References to illustrations in *Flowering Plants of Africa* are provided, but no other illustrations are referenced, although most of the *Bulbine* species described are illustrated in other works for adjacent areas such as Elsa Pooley, *Field guide to wild flowers Kwazulu-Natal and the Eastern region* 1998

How does one decide if a Flora is likely to be a reliable guide? There are helpful dichotomous keys and detailed descriptions, which are so useful if one is faced with fragmentary or incomplete material. Thorough and meticulous research is evidenced by the extensive lists of bibliographical references under each species entry, lists of representative herbarium specimens and annotated synonymies which include details of misapplied names, thus correcting errors of identification made by earlier authors.

Some of the most important information presented in a Flora of this type appears in the notes at the end of each species account. There we learn, for example, that although van Wyk & Smith, *Guide to the Aloes of South Africa*, consider *A. komatiensis* to be a synonym of *A. parvibracteata*, it can be distinguished by its flower pedicels distinctly shorter than the bracts, compared with pedicels equal to or longer than the bracts in *A. parvibracteata*. We are also instructed how to separate *A. cryptopoda* from *A. pienaardii*, and that Zambian and Malawian populations of *A. mzimbana* differ in spotting of the leaves. There are also several incisive critical observations on apparent errors in the recent *Flora of Southern Africa* treatment of *Aloe*. This excellent up to date critical Flora provides a very useful addition to African floristic literature. It completes a series of treatments for the *Asphodelaceae* that now provide taxonomic insight and enable identification extending from Ethiopia and Somalia, through Tropical East Africa to Southern Africa.

The *Aloe littoralis* complex in Botswana

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I am referring to a species complex, rather than a single species because there is disagreement as to the exact number of species in this variable group. As Reynolds, 1974, wrote, "Neither the "lumpers" nor the "splitters" can be proved wrong, it is a matter of opinion, and much depends on the extent of field experience. The more field experience and the nearer to Nature and instinctive perception one can approach, the more is one urged along the path of grouping within reason, rather than splitting. There is almost as much individuality and variation among some species of *Aloe* as there is among human beings."

Personally, I think the complex is all one highly variable species, *Aloe littoralis* Bak. Larry Leach, however, felt strongly enough about the trunkless populations to name them as a separate species, *Aloe esculenta* (Leach, 1971). Among the differences he listed are the heavily spotted leaves, teeth or spines on the keel or median line, suckers, and a more lax inflorescence.

None of these is absolute. Many mature plants of *A. littoralis* with tall trunks have some spots on the leaves, although this is generally a juvenile characteristic. (In fact I would regard *Aloe esculenta* Leach as a neotenic form of *A. littoralis*.)

Although most plants of *A. littoralis* have a single head, one from the Molepolole area has four, another from Darnaway Farms has six and one from Mamuno has seven. The one at Darnaway was from a prostrate stem and comes closest to the suckering described by Leach. The rest of the population at Darnaway was single-headed and upright with trunks a bit shorter than elsewhere. (Fig. 25)

The population at Darnaway also differs in having no spines on the back of the leaf. All other populations which I have seen have a few spines on the back of the leaf tip. Again, the presence of more is a juvenile characteristic.

Finally, the laxness of the inflorescence depends on the age. As the buds open they become less densely packed. This also may indicate hybridisation. *Aloe zebra* has been suggested as the other parent. This would also explain the subclavate perianth with more exerted stamens as described by Leach.

Peter Smith, who collected extensively in the North of Botswana, was of the opinion that the robust plants at Gwihaba, which grow on the limestone that forms caves there are deserving of species status. Despite the tall and multi-branched inflorescences, I found no significant difference from plants at Mamuno.

The flowering time is another quite variable feature. I agree with Reynolds (1974) who said, "It appears that plants flower in their various geographical stations at different times, probably depending on the rains." This is not entirely true, however, since plants from Mamuno bloomed on 19 June 2001 in the Botanic Garden of Gaborone and had their flowers frozen on 27 June. Similar plants from Tshesebe growing in the same environment were only coming into bud at the time of the frost and so escaped. The same plants from Mamuno bloomed on 6 May 2002 and escaped freezing that year. Plants were seen in bloom in Mamuno itself on 18 May 1995. (Fig. 26.)

Reynolds, 1974, gives two flowering times for Botswana (both based on plants growing in Grahamstown, South Africa): July 1905 for M'movane on the road to Lake Ngami and Sept. 1905 for Ushashani in the NE Kgalagadi. I have seen plants in bloom in June 1992 (Letlhakane, Gweta, Qangwa and Gwihaba (Fig. 27). In July 1994 I observed plants in flower SW of Nata and in Aug. 1991 I saw plants just finishing flowering at Shakawe (Fig. 24). At that same time the plants in Peter Smith's garden in Maun (including the form separated off as *A. esculenta* as well as a hybrid) were just past blooming. (Fig. 23) Thus the flowering period can be anywhere from May to September.

Elsewhere Reynolds lists July to May for Namibia and Feb. to Sept. for the Limpopo Province of South Africa. Interestingly, Van Wyk and Smith (2001) list Feb. to March for this same area.

The flowering period may be important for determining which birds feed on (and presumably pollinate) *Aloe littoralis*. At Shakawe I observed the white fronted bee eater chase a Marico sunbird from flowers of the form called *A. esculenta*. (Interestingly, I only saw the sunbird actually feeding.) Both the miombo double collared and the lesser double collared sunbirds were reported to feed on the plants at Shakawe, but the latter does not occur in Botswana and the former occurs only in the border area North of Francistown. Perhaps what was seen was the scarlet-chested sunbird which does occur at Shakawe.

In the garden at Gaborone I have seen *Aloe littoralis* from Mamuno fed on by both male and female white-bellied sunbirds on 19 June 2001. I have also seen the brown-veined white butterfly (*Belenois aurota*) feeding on the same plants (12 July 1993).

Story (1958) reported that the San in Namibia strip the flowers off the stalks, pound them and eat them as a "spinach-like" vegetable. He said they do not eat the leaves, although Story tasted them both raw and cooked



Fig. 23



Fig. 24



Fig. 25

Fig. 23 Peter Smith's garden. 11th Aug. 1991.
Aloe esculenta, *Aloe littoralis* and hybrid (left to right).

Fig. 24 Shakawe Fishing Camp. 10th Aug. 1991
Aloe esculenta.

Fig. 25 Darnaway Farms. 17th March 2002
Aloe littoralis

Fig. 26 Mamuno. 18th May 1995.
Aloe littoralis.

Fig. 27 15th June. 1992
Aloe littoralis.



Fig. 26



Fig. 27



Aloe littoralis complex

1 - 10: trunk.

wild)

- 1. 24 km N Molepolole
- 2. Darnaway Farms
- 3. Bobonong
- 4. Foley Siding
- 5. Tshesebe
- 6. SW of Nata
- 7. S of Rakops
- 8. N of Rakops
- 9. Gewihaba
- 10. N of Mamuno

- A. SE of Nata
- B. Letlhekane
- C. Lake Xau
- D. Gweta
- E. Maun
- F. Qangwa
- G. Shakawe

A-G: no trunk. (D, F cultivated. G cultivated and

and found them edible. It was for this reason that Leach named this trunkless form *Aloe esculenta*. This edibility is not a consistent feature as some of the trunkless and all of the plants with trunks are reportedly bitter.

Recently I discovered a population of *Aloe littoralis* some 24 km North of Molepolole. When I stopped to make sure of the identification, I found a species of euphorbia in full bloom. It resembles *Euphorbia schinzii*, but differs enough to be described as a new species. The area in question has a flat surface of "cobble stones". (I checked with our geologist, Mr. Gabadirwe and found it is a dolerite sill.) Whether the rock is significant at all, it is the only distinguishing feature which I could find separating the *Aloe littoralis* from the populations of *Aloe marlothii* which are very abundant around Molepolole and also grow a bit North of the *A. littoralis* population.

I was interested to note that Reynolds, 1974, had not only noted *Aloe littoralis* at Molepolole, but had recorded a hybrid of this with *A. marlothii*. I have not seen such a hybrid, but I have seen a number of other *A. marlothii* crosses. I will report on this second highly variable species in a second paper.

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Alsterworthia International 3(2)11 Fig. 18 (July 2003)

Please note that fig. 18 shows Impala. For Springbok see below.

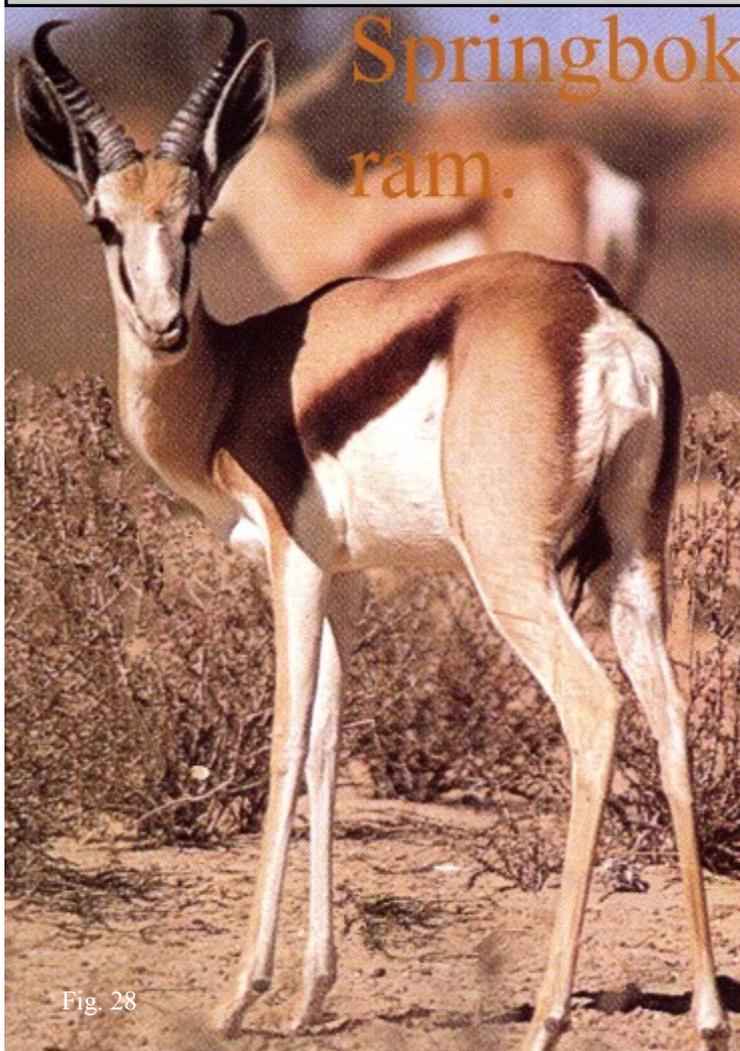


Fig. 28

HAWORTHIA STUDY

Journal of the Haworthia Society of Japan.
www.sogo-w.com/haworthia

Subscriptions for 2004 for Haworthia Study for Alsterworthia International members outside Japan are:

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Fig. 29



Fig. 30

Publication of Two New Haworthia Cultivars

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Haworthia 'Bristle Tip' F. Hoes. n. cv. (FH02)

The parents of *Haworthia* 'Bristle Tip' are (*Haworthia truncata* x *Haworthia maughanii*) x *Haworthia emelyae* var. *major*. Not all the seedlings were identical, but I still have two clones which are very close to this named one. This particular clone was selected for the bristling, crystal end-areas of the leaves, which features gave rise to two possible descriptive names. Originally the name "crystal" was selected, but, as that name has already been used for another cultivar, the other prominent alternative just had to be substituted. No trace has so far been found of this name having been used in *Haworthia*

The cultivar is a rosette of chunky leaves, the chunkiness the influence of the hybrid parent, with crystalline bristles on all sides of the upper half of the leaves, the influence of the other parent, *H. emelyae* var. *major*. The hybrid seed was sown in September, 1999. The seedlings grew very slowly at first, but in 2002 growth became vigorous and plants began to offset. Both parents were darkly coloured. In this cultivar the young plants and plants in low light are a dark green. In summer, under strong light, they turn a dark reddish-black but the tips of the leaves always appear rough and shiny. Figure 29 shows the plant which is the origin of this named cultivar.

As this cultivar offsets freely, propagation is by offsets. Figure 30 shows a dark green cutting in the process of rooting. Leaf cuttings and probably root cuttings can also be used for propagation.

Haworthia 'Silver Bug' F. Hoes. n. cv. (FH03)

Haworthia 'Silver Bug' is a hybrid between *Haworthia pygmaea* f. *crystallina* (a form with very papillate end areas) and *Haworthia emelyae* var. *major*. Despite its name, it is a very attractive cultivar, as are some bugs! The rosette has compact, retuse-leaves following the forms of both parents. The leaf end areas of both parents seem to combine to enhance the pattern of lines and tubercles and their silver colour. The plant has a bluish-grey colour which appears lighter on the retuse leaf ends, probably because of the dominant silver of the tubercles and lines. A little dark red can be found at the top of the leaf base where it joins the retuse end and some dark red lines can be seen among the silver lines on the retuse ends in very strong light. Propagation is best by leaf cuttings.

Figure 30, back cover, FH03, is a five year old plant from seed sown in September 1998. It is about 7cm across. From 10 seeds I still have four seedlings of which two are very close to this plant.

Both *Haworthia* 'Bristle Tips' and *Haworthia* 'Silver Bug' have *Haworthia emelyae* var. *major* as one of the parents, but the cultivars are quite different plants because of the influence of the other two different parents used for the crosses.

New species/combinations in *Haworthia*

Since the publication of "Haworthia Revisited - A Revision of the Genus", which itself contained a number of new species, new species and combinations have been published in English, German and Japanese journals and more are forecast. With the cooperation of authors, it is hoped in due course to provide English descriptions with photographs of all these taxa in one publication, in order to make it easier for enthusiast to have access to that information. In the meantime the following is an **interim** list of names known to the editor to have been published so far.

<i>Haworthia agnis</i> L. Battista	<i>Haworthia enigma</i> M. Hayashi	<i>Haworthia picta</i> var. <i>tricolour</i> I. Breuer
<i>Haworthia albispina</i> M. Hayashi	<i>Haworthia gracilis</i> v. <i>minor</i> M. Hayashi	<i>Haworthia schoemanii</i> M. Hayashi
<i>Haworthia azurea</i> M. Hayashi	<i>Haworthia hayashii</i> M. Hayashi	<i>Haworthia scottii</i> I. Breuer
<i>Haworthia breueri</i> M. Hayashi	<i>Haworthia kemari</i> M. Hayashi	<i>Haworthia schoemanii</i> M. Hayashi
<i>Haworthia cooperi</i> var. <i>doldii</i> B. Bayer	<i>Haworthia leightonii</i> var. <i>dauidii</i> I. Breuer	<i>Haworthia tradouwensis</i> I. Breuer
<i>Haworthia correcta</i> v. <i>lucida</i> M. Hayashi	<i>Haworthia mucronata</i> var.	<i>Haworthia tretiensis</i> I. Breuer
<i>Haworthia decipiens</i> v. <i>virella</i> B. Bayer	<i>calitzdorpensis</i> I. Breuer	<i>Haworthia truncata</i> var. <i>minor</i> I. Breuer
<i>Haworthia devriesii</i> I. Breuer	<i>Haworthia odetteae</i> I. Breuer	<i>Haworthia virella</i> M. Hayashi
<i>Haworthia elizeae</i> I. Breuer	<i>Haworthia picta</i> var. <i>janvlokii</i> I. Breuer	<i>Haworthia viscosa</i> var. <i>variabilis</i> I. Breuer
<i>Haworthia esterhuizenii</i> M. Hayashi		

