

# ALSTERWORTHIA INTERNATIONAL

The  
**Succulent Aslphodelaceae  
Journal**



*Haworthia badia*



*Haworthia 'Aluminum Star'*

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# BAD BOY BEAUTIES. Nine new cultivars from India. PART-2

Soumen Aditya



A few years ago I completed my "Bad Boy Beauties Part -1, a realization of some of my dreams, but I am unable to publish regularly. The situation in India is difficult. However early this year I completed Part 2 and hope all of my haworthia friends will enjoy these newly published cultivars. Mostly I have given them the names of my Culcutta friends who are very much interested now in haworthias. I am very happy to have produced these cultivars in our hot climate. I will be even happier when more people in India start to produce cultivars themselves.

**1. *Haworthia* 'Mamata'** The name honours CM Mamata Banerjee.

**Parentage.** *Haworthia cooperii* var. *venusta* ♂ x *Haworthia* 'Three Sisters' ♀.

**Description.** Rosette acaulescent, extremely slow growing; leaves upright, very hard, light green, the ends darkening with age; many features similar to *venusta*, but lacks the uniform dense covering of coarse, white hairs, the inward curved end and prominent terminal spine. Leaf apex obtuse-triangular, with vertical dull-green tissue projecting into the crystal-like, watery, windowed end with rows of pubescent, hard, white, relatively short hairs. A small terminal spine is present. The edges of the triangular (in cross section) leaves are lined with white flexible spines.

**Propagation.** Offsets.

**2. *Haworthia* 'Debashis-Samarpita'**. The name honours my best friend, a truly interested person in succulents and a very good grower of plants from many succulent families.

**Parentage.** (*H. Bayeri* x *Haworthia emelyae* var. *major*) ♀ x *H. pygmaea* ♂.

**Description.** Acaulescent. Young leaves curved to almost retuse with age, almost blackish with a dark brownish tint present through the year, inner flattened leaf bases can be noticeably tinted brown, rugose, margins and keel lined with small teeth, leaf tip with or without a terminal spine, windows pellucid with 3-5 vertical white lines. Slow growing,

**Propagation.** Offsets.

**3. *Haworthia* 'Raja'**. Named after my haworthia friend and enthusiast Mr. Raja Bose.

**Parentage.** (*H. bayeri* x *Haworthia emelyae* var. *major*) ♀ x *H. pygmaea* ♂.

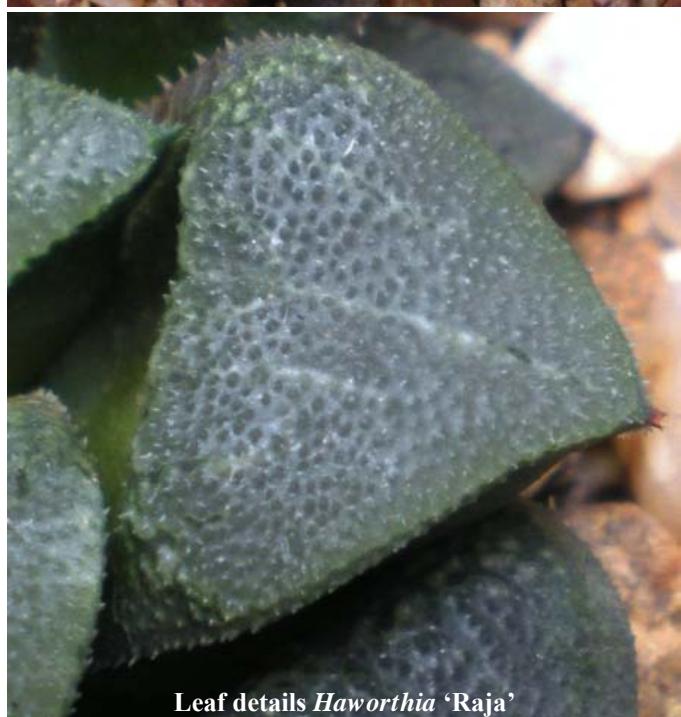
**Description.** This is a sister clone of *Haworthia 'Debashis-Samarpita'*. It is more compact, leaves are retuse, dark green with bluish retuse ends which are rugose with up to eight white longitudinal lines, short terminal spine may be twisted sideways or point down; leaf edges are lined with small, strong, marginal teeth. It is very slow growing.

**Propagation.** Offsets.

**4. *Haworthia 'Sibashis'*** The name honours a friend who is very knowledgeable about many species.

**Parentage.** (*H. emelyae* var. *major* x *H. cooperi* var. *venusta*) ♀ x (*H. bolusii* var. *bolusii* x *H. archnoidea* var. *scabrisina*) ♂.

**Description.** A complex hybrid which resembles none of the parent species. Acaulescent. Leaves more or less vertical, with age curved backwards, greyish green with tips somewhat reddish, prominent white teeth on leaf margins and keels twisted to curved; upper and lower leaf surfaces have subdued whitish



spots and tubercles and white spines in longitudinal rows; opaque windows are in short, narrow longitudinal blocks on the leaf lower surfaces.

**Propagation.** Offsets

**5. *Haworthia 'Nilotpal'*.** The name honours my friend Nilotpal Ganguly, a keen haworthia grower.

**Parentage.** (*H. archnoidea* x *H. emelyae* var.



*major*) ♂ x (*H. cooperi* var. *cooperi*) ♂.

**Description.** Acaulescent. Leaves more or less vertical, spreading with age; upper surface green to slightly darker green with scattered white spots and small tubercles; lower surface black with opaque windows in short blocks and lines, keel and leaf margins lined with small white teeth; terminal spine slightly twisted, brown, deciduous with age. Slow to grow. A very nice cultivar with upright leaves which stay blackish all the time.



**Propagation.** Offsets.

**6. *Haworthia* 'Saikat'.** The name honours Mr. Saikat Dutta, another Haworthia enthusiast.

**Parentage.** (*H. archnoidea* x *H. emelyae* var. *major*) ♀ x *H. cooperi* var. *cooperi* ♂.

**Description.** A sister clone of *Haworthia* 'Nilotpal' but quite distinct. Acaulescent. Leaves spreading, light green but distinctly yellowish brown to very dark brown in summer; keel and marginal teeth white, terminal spine brown; windowed leaf ends are somewhat curved back (mildly retuse), upper and lower sides lined with white teeth or tubercles. The somewhat elongated, spreading leaves make this a large plant.



**Propagation.** Offsets.

**7. *Haworthia* 'Debidas'.** The name honours my Guru for succulents plant Debidas Choudhuri.

**Parentage.** (*Haworthia* *springbokvlakensis* x *H. comptoniana*) ♂ x *H. 'Pulin-Suprava'* ♀

**Description.** Acaulescent. Large, open rosette. Leaves somewhat elongated, dark green with white- windowed, elongated retuse ends; windows are brownish-green, parallel lines subdued with dots and lines to thick stripes of white. The dark green background is seen as lines between the windows; terminal spine white. This very big plants in summer is quite dark brown,



**Propagation.** Offsets.

**8. *Haworthia* 'Jaydip'.** The name honours my friend Jaydip Biswas, who has a great interest in many succulents plants family.

**Parentage.** *Haworthia* 'Nirmal' ♂ x *H. magnifica* ♀

**Description.** Aucaulescent. Leaves compact, spreading; the retuse ends elongated triangular with a variable

number of longitudinal white lines also variable in length; leaf margins whitish with vestigial white teeth; terminal spine twisted, brown. Leaf colour bluish green.

#### Propagation. Offsets.

9. *Haworthia* ‘Partha’ The name honours my life long school friend Partha Ghosal.

**Parentage.** (*H. emelyae* var. *comptoniana* x *H. springbokvlakensis*) ♂ x (*H. springbokvlakensis* + *H. mutica*) ♀.

**Description.** Acaulescent. Leaves glossy dark green with a tinge of yellow. Retuse ends concave, slightly twisted, many longitudinal yellowish white lines occasionally reticulate; terminal spine brown, twisted. The dark green leaf surface is seen as dark green lines between the windows.

#### Propagation. Offsets.

**Editors note.** *Photographs by the author. These photographs and descriptions are the nomenclatural standards for the cultivars named and are in accordance with Division 5 para 3 of the International Code for the Nomenclature of Cultivated Plants. They have been deposited with an herbarium, namely WSY, listed in Appendix III, of the ICNCP i.e. Royal Horticultural Society, Royal Horticultural Society's Garden, Wisley, Woking, Surrey, GU23 6QB.*



*Haworthia* ‘Debidas’



Leaf detail *Haworthia* ‘Debidas’



*Haworthia* ‘Jaydip’.



*Haworthia* ‘Partha’



Leaf details *Haworthia* ‘Partha’

# Haworthia margaritifera/pumila

Dr. John Manning.

The vexing matter of the correct name for *Haworthia pumila* has taxed some of the finest minds in botanical nomenclature. Since I do not include myself among their company, I was not in the least surprised to find that I had misrepresented the situation. Thanks to expert input from Roy Mottram and Urs Eggli we can now put the matter to rights.

The issue of the correct name for *Haworthia pumila* starts with the fact that in his original publication of *Aloe pumila*, which forms the basis for this species, Linnaeus recognized several varieties, but without explicitly listing the typical variety, thus he did not list *Aloe pumila* L. var. *pumila*. Linnaeus' *Aloe pumila* was subsequently effectively lectotypified by Burman f. (1701) [and later in error by Scott (1978)] against the illustration in Commelin's *Horti medici Amstelodamensis*, which is also the type of var. *margaritifera*. This renders the name *margaritifera* homotypic with *Aloe pumila* L. (i.e. they share the same type). As the autonym (i.e. following automatically from the species name) for this species, *pumila* would normally have statutory priority over *margaritifera* BUT, in the interim, the combination *Haworthia pumila* (Aiton) Haw. (1804) had been published, based on the name *Aloe arachnoidea* var. *pumila* Aiton, a quite different species that we know now as *H. herbacea*. The publication of this combination renders *Haworthia pumila* (L.) Duval (1809) an illegitimate later homonym and thus not available for use in *Haworthia*. Because the combination *Haworthia pumila* cannot be used for *Aloe pumila* L. as a result of its prior usage for some other taxon it must be substituted with the next available valid and legitimate epithet, which is *margaritifera*. Note, however, that in any genus other than *Haworthia* the epithet *pumila* is the correct one to be used for this species.

The formal rendering of this situation is as follows:

**Haworthia margaritifera** (L.) Haw. (1819).  
*Aloe pumila* var. *margaritifera* L. (1753).  
*Aloe margaritifera* (L.) Burm.f (1768). *Aloe pumila* L. (1753). *H. pumila* (L.) Duval. (1809), hom. illegit. non *H. pumila* (Ait.)

***Aloe pumila* var. *margaritifera***  
Commelin 1701

**Hort. Med. Amstel. 2t.10**  
Lectotype

Haw. (1804). Lectotype, effectively designated by Burman f. in *Prodromus florae Capensis*: 10 (1768) [Superfluous lectotypification by Scott (1985)]; Illustration in Commelin, *Horti medici Amstelodamensis, Pars altera*: t.10 (1701): *Aloe Afric: folio in summitate triangulari margaritifera, flore subviridi.*

Photograph below Roy Mottram.



# Indices of Plant Names and Contents for all articles in Alsterworthia International Volumes 1-10.

Plants are listed in alphabetical order starting with the genus. The next indent lists the species where a species name is applicable or the cultivar name where it is not. The next indent lists the variety or other name such as the cultivar name of the species. Species names are printed in *italics*, cultivar names in normal ‘type’ in single inverted commas. Thus the plant name can be compiled by combining the names in order of the indents. Where there is only one entry for a genus there are no indents.

Species & higher scientific categories listed in articles dealing comprehensively with classification, the titles for which are printed in ***bold italics*** in the contents list, are not listed again in this name index.

Please see these articles for details of the species listed.

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## Seed List

Joel Lode's on-line cactus and other succulent seed list in French, Spanish and English  
is available to members at

<http://cactus-aventures.com/SeedCatalogue/SeedlistSUC.html>

This list can only be described as comprehensive. It is well worth consulting.  
Please follow the instructions carefully when ordering.

Please do not enquire if certain plants are available. The volume of work is too great to permit enquiries to be dealt with. If you do no list any substitutes please ensure that you pay by credit card so that you will be charged only for the seed which can be supplied. Early ordering is recommended.

## Editor's Thoughts on the Ten Years Indices.

When ones is short of time, as I frequently am, preparing indices is not one of the joys of life. They need time, concentration, patience and more, including checking. Because no one else was available to do it, I have prepared the indices knowing that I would be short of time and consequently short on concentration and patience and I have not found anyone to check my result.

I have tried to present comprehensive indices whilst being selective in what has been listed in the plant index.

The species listed in articles dealing with classification have not been listed in the plant index as they are numerous and can be readily found in the articles. The articles dealing with classification are listed in bold italics in the Contents List to draw attention to the fact that the articles need to be consulted to access the species.

Quoting page references in the plant index for each time a genus or species name is mentioned in an article may not always be necessary. A genus name may appear leveral times in an article on its own and also occur several times in the same article with the species and the species themselves may be quoted several time. I have, therefore exercised some discretion about when to include some genus and species names individually.

As articles are all about species it would be interesting to know exactly what members require from a plant index. Please send your views to the editor; hmays@freenetname.co.uk

The Contents Index lists the articles separately for each issue on the grounds that not all articles fit easily into precise classifications and for non-members it is probably more important to know what a particular issue contains if it is to be purchase.

It is intended to publish the Plant and Contents indices and also the contents of all books and special issues Alsterworthia has published in a Special Issue for the benefit of non-members.  
I will gladly incorporate any errors detected by members.

# Contents List

In this list the contents are listed separately for each issue, so that people contemplating the purchase of back issues may readily know the contents of each one and not have to spend a great deal of time searching through a combined list covering 10 years to assemble this information.

Species & higher scientific categories listed in articles dealing comprehensively with classifications, the titles for which are printed in ***bold italics*** in this Contents List, are **NOT** listed separately in the Index of Names.

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Page 6 (flower photos) and figs. 14 & 15 page 8.  
IB2839 are H. pehlemanniae, NOT H. globosiflora.  
IB2837 is H. globosiflora, NOT H. pehlemanniae. As  
correctly indicated in the text, figs 16-19 page 9 are H.  
viscosa. Both plants in figs. 17 & 20 come from  
Sandvlakte farm, Studis.

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**Pressure of work, not only Alsterworthia International, does not allow me the time I would like to prepare a 10 year index and the situation is likely to get worse, not better.**  
**I wondered, therefore, if any member would like to accept the post of Assistant Editor with the object in the first instance of preparing a better index for journals published 2011 to 2020.**

**Offers please to the Editor,  
hmays@freenetnam e.co.uk**

## **A rationalisation of names in Haworthia. A list of species with new combinations and new synonyms—Amendments.**

Bruce Bayer is a prolific writer and speed of output sometimes overtakes what he has only recently published. Normally there should be no problems with this but sometimes, in his attempt to get maximum publicity, he fails to notify one editor that he has changed his mind and notified another medium of his revised views. Many of you may have read Bruce's article "Haworthia marxii and H. truteriorum in relation to rational classification", a critical review of the two species and their authors in the November journal, 2012 and then his posting on Facebook in which he accepts Haworthia marxii as a good species and apologises to the author Sean Gildehuys unreservedly for suggesting it was not. Since then I have discovered that he has transferred v. livida, listed under *Haworthia pubescens*, to *Haworthia maculata*. Therefore please note that to bring up to date "A rationalization of names in Haworthia. A list of species with new combinations and new synonyms" by M.B. Bayer and J.C. Manning, published in Alsterworthia International, March, 2012, it is necessary to amend the entries for *H. maculata* and *Haworthia pubescens* under the list for the Subgenus Haworthia and also to

add Haworthia marxii as follows:

**H. maculata** (V.Poelln.) Bayer in Haw. Hand.: 130

(1976): *H. schuldtiana* var. *maculata* V.Poelln. (1940). Lectotype, designated by Breuer & Metzing (1997): Worcester, Venter 6 (BOL).

*H. maculata* var. *maculata*+. \**H. audens*

*H. maculata* var. *livida* Bayer (Bayer), **comb. nov.**: *H. pubescens* var. *livida* Bayer in Haw. Revis.: 134 (1999). Type: Worcester, Lemoenpoort, Bayer 1128 (NBG), \* *H. livida*.

**H. pubescens** Bayer in J. S. Afr. Bot. 38:129 (1973). Type: Worcester, Sandberg Hills, Bayer 163 (NBG).

**H. Marxii** Gildenb. in Aloe 44:4 (2007) Type: Western Cape, Rooinek Pass, Marx 605 (GRA, holo.)

+ The type variety is automatically created by the creation of another variety of that species.

\* These names do not appear in the International Plant Names Index ([www.ipni.org](http://www.ipni.org)) as of 20 January 2012

# Tissue Culture

Dr M. Hayashi

As an introduction, in Haworthia Study No 22, Dr Hayashi stated that he was the first to tissue culture haworthias (S. Afr. J. Bot. 53:411-423, 1987) and that Commercial tissue culture started more recently in South Africa, Holland, USA, China (also Korea?) and finally Japan. The following are the English extracts from his article.

"The technique of tissue culture is not necessarily so difficult, but it needs certain instruments and equipment such as a culture room, clean bench, autoclave, culture bottles as well as air conditioners and lighting. It is not easy for amateurs to prepare these.

Plantlets by tissue culture are very soft. They need a half year's or a year's cultivation (adaptation) in normal cultivation condition after de-bottling.

"They rot particularly easily in a box during a long journey. Transport of such plantlets in hot summer is very dangerous.

"Plantlets by tissue culture grow faster and bigger than those by leaf cutting and usually express better

markings. This may indicate that tissue cultured plants may possibly be virus free, but testing is needed to confirm this.

"Bud mutation, including variegation, is said to occur frequently in tissue culture (compared with vegetative or seed propagation. Editor.), but this may not be true. The number of buds produced in tissue culture is enormous and, on average, the frequency of mutation may be slightly higher than under normal circumstances. Plantlets in bottles may not die or rot, therefore, all mutations (including variegation) can survive and grow to a certain size in bottles. Consequently, large numbers of successful bud mutations will be produced by tissue culture.

"Variegation by tissue culture is unstable when plants are small. Variegation may often disappear according to the growth of plants, but this is the same in seedling."

In *Haworthia* in Korea in Haworthia Study No 25 Dr Hayashi continues "In Korea, haworthias have become very popular since last year. The chief leader of this boom is Mr. LEE sang, near Soul. He visited and imported many nice Haworthia plants from Japan every month and distributed them in Korea. He collected nice *H. maughanii* (Fig. 3), *H. truncata* and *H. bayeri/laeta* variegated (Fig.3) as well as green ones (Fig. 5).

"Mr. PAK is a large grower of *Echeveria* near Soul. He started to grow/breed haworthias and prepared a



*Haworthia 'Shikinjo'*. A variant with strong contrast.



*Haworthia 'Shikinjo'* A variant with short leaves.



*Haworthia bayeri/laeta* variegated. Mr. LEE's plants.



*H. maughanii* variegated. Mr. Lee's plants.

new greenhouse of 1650 m<sup>2</sup> for haworthias. He plans to produce many good *H. maughanii* & *truncata* from seeds. He collected many good mature plants (Fig. 6, 7\*) in order to get seeds from them.

"The price of a good *Haworthia* has becomes very



*Haworthia maughanii* grown by Mr. Lee.



One of Mr Pak's *H. maughanii* mother plants for seed production.  
*Haworthia maughanii* 'Ikazuchi'-like.



high in Korea. I warned them it is essential to keep prices high in order to encourage many plant lovers to collect them, not to mass produce for money. If high prices fall suddenly the market will crash."

Editor's notes.

The restriction of supply to keep the price high is a notable feature of a free market balanced by others who copy, produce and sell at a lower price. Rare and highly attractive cultivars have been purchased for mass production by tissue culture and the progeny have been sold at much lower prices. This has benefitted many who were not prepared to pay the high prices, but disadvantaged breeders by loss of income and a perceived loss in quality, which they were dedicated to maintaining. There have been rumours from Japan that Plant Breeders would seek Plant Breeders Rights for their new cultivars in order to stop others from propagating them by whatever means. This has already been done in the USA and other countries for some recent introductions - see *Some new Aloe cultivars from the USA, South Africa & Australia, Alsterworthia International Volume 12, Issue 1, pages 2-4*. Trade in plants is international, but, of the genera we are interested in, only aloes require CITES export and import certificates. The other genera are not subject to this restriction - only phytosanitary certificates are required for them. It remains to be seen how effective Plant Breeders Rights will be in restricting propagation of the plants they trade world wide.

Tissue Culture Centres have been known to promote variegation in tissue cultured plants by the introduction of additives (chemicals). If this results in gene mutation the variegation is permanent; if it only results in the modification of biochemical pathways the variegation is not permanent, because, once the addition of the chemicals is stopped, the chemical pathways return to normal.

\* The brownish patches in this plant are physical and not hereditary, consequently the progeny will not inherit the defect.

### A request for Conophytum seed by an Haworthia enthusiast.

Members will be familiar with Soumen Aditya's articles on haworthia cultivars in this journal. He is now interested in trying to grow mesembryanthemums from seeds in the Indian climate and would like to get hold of some seed with which to experiment. Is anyone able to help him please? If you have any seed to spare please send it direct to him at the following address:

Soumen Aditya

P.O & Vill-Maju, Dist-Howrah-711414, W.B, India.

# The Haworthia pollinator.

M B Bayer,  
PO Box 960, Kuilsriver 7579

While I have seen and recorded a Solitary Bee species pollinating the flowers of *Haworthia*, I have never succeeded in photographing it. Slightly larger than the ordinary Honey Bee, it is a very rapid and busy flyer and does not spend time at any one flower. Here in Cape Town it is relatively rare and there has been an odd season where I have not seen it at all. It makes a nest consisting of a short tunnel dug into the ground, where it makes a series of nectar and pollen filled cells in which the eggs are laid. At Worcester these insects were very common and on one occasion I came across them nesting in large numbers in a small patch of bare gravelly clay. It is remarkable how they were obviously able to recognize and home in on their own small tunnels. It does come into relatively insect proof enclosures and can make isolation of plants for pollination difficult. It is unlikely that flying distance has been measured and it seems very unlikely that it will match the observed maximum of the Honey Bee at 13 km (8 miles). However, I do not know the length of the life cycle and the relation of the feeding/foraging activity to its nesting behavior. It may be possible that feeding, but non-nesting, bees disperse over greater distances.

The chance to take the two photographs presented here came quite by chance. I was in my plant house that is partly accessible to insects, and saw the bee on a *Haworthia* flower stalk. Its jaws were clamped on the peduncle and it was totally stationary. I took a few pictures and then attempted one from another angle. In doing so I had to dislodge a second peduncle from nearly under the bee. The slight difficulty in doing so did not register properly. I took a picture and then suddenly the bee came to life and flew off to resume foraging in the house. It soon settled on another inflorescence (on a plant at another table), again on the peduncle with its jaws clamped on the stalk as before. I removed some pollen coated threads hanging from its back legs and left. While downloading the pictures I saw that I had photographed a spider on the peduncle under the bee in my second angle. So went back to see. The bee was still stationary on the flower and then I saw what I thought was the same spider crawling over the bee. Somehow I disturbed the bee again and it flew off up into the shade cloth in seemingly healthy fashion. The next day I thought I would check the original peduncle to see if there was any web. Much to my surprise I saw the original spider and no web. I have seen these small yellowish spiders on flowers before and also noted small amounts of web. Very occasionally there have been dead flies sitting attached to the flower stalks but not with any noticeable web.

So it is still a bit of a mystery if this small spider, or

spider pair, could actually capture and immobilize such a bigger potential prey. Certainly the bee I observed had encountered web and may have grasped the stalk to free its hind legs to work the web off. I did not observe anything more than minimal movement to do so.

Regarding pollination, I was not doing any controlled pollination during which I would have been checking for the presence and exclusion of the bee. But what I did observe was seed set on *H. limifolia* clones that I could not achieve although in desperation I have transferred pollen between different collections. The bee had an advantage in also bringing pollen from unrelated species. This was on *H. limifolia* 'gigantea' and on *H. limifolia* 'glaucomphylla'. While I have set a few capsules on the former, I have achieved none on the latter. What is interesting is that no seed was set on field collected clones of *H. limifolia* presumably 'keithii' from Isiteki.

During feeding/foraging, the bee holds onto the lower flower limbs and very briefly inserts its 'tongue' into the flower then buzzes away. I could not see any deliberate hovering and pollen transfer to the back legs as does the Honey Bee. But pollen is collected and carried in approximately the same way. When I hand-pollinate I adopt the simple approach of approximating the insertion of hair (bees 'tongue') into one flower to obtain pollen and then into another to deposit it. Better results are claimed for physically exposing the stigma and transferring pollen using a brush.



Resting bee.  
Family Anthophoridae



Resting bee as in fig. 1.  
Note white spider underneath.

**The photographs on the front and back covers are reproduced from photographs published in Volumes 1-10.**

Do you recognise them? If you do, you have been a diligent reader and have a good memory.  
If you do not, use the plant names to locate the page references in the Plant Index - and read all about them.

# Another Haworthia pollinator.

M B Bayer,  
PO Box 960, Kuilsriver 7579



7889 *Australoechochus hirtus* on  
*H. mutica*. Rotterdam 2



7889 *Australoechochus hirtus* on  
*H. mutica*. Rotterdam 2  
DSCF5050.

A recent trip to photograph flowers resulted in us finding *H. floribunda* southeast of the Bontebok Park at Swellendam. I have reported elsewhere that I had seen this species within the park, but repeated visits had turned up nothing but similar looking *H. mirabilis*. On this occasion we were outside the park where we have recorded *H. mutica*, *H. marginata*, *H. minima*, and also similar small forms of *H. mirabilis* as occur inside the park. We explored a small

area we had not covered before and were delighted to find *H. floribunda*, now easy to see because they were in flower. We proceeded to the *H. mirabilis* locality and on the way again found *H. floribunda* that we had missed on the previous visit. We also found more *H.*

*mirabilis* about 60m further along and still about 100m away from the original *H. mirabilis* locality. These four species were along a stretch of about 5-600m and not occupying shared habitat. The vegetation was fynbos on shallow alluvium, quite stony and well-drained.

It was while photographing the flowers of *H. floribunda* that a furry fly appeared and ignoring us and the camera, attended to the flowers, figs 1 & 2. While I was trying to get a picture of this fairly fast moving fly, the Anthophorid bee pollinator also appeared but flying too fast and haphazardly to be pictured. We had seen the same fly on *H. mutica* at the Buffeljags habitat. We did see at least two other similar fly species but unidentified.

The species is *Australoechochus hispida* known to be a pollinator and visitor to many flower kinds. The flies are nectar feeders and parasitize other insects in their reproductive process.

While we do not know what the pollinating effectiveness of these insects over distance is, it is quite obvious that in this situation there must be substantial transfer of pollen across all the species given the short distances involved. Three of the species were in flower. But *H. marginata*, curiously, at this locality flowers nearly 5 months earlier than at other known places. Despite that, there are hybrids with *H. minima*. There did not seem to be hybrids among the *H. floribunda* plants, but we did think that some of the plants of *H. mirabilis* could have been hybrid.

## INTERNATIONAL CODE of NOMENCLATURE for ALGAE, FUNGI and PLANTS (MELBOURNE CODE)

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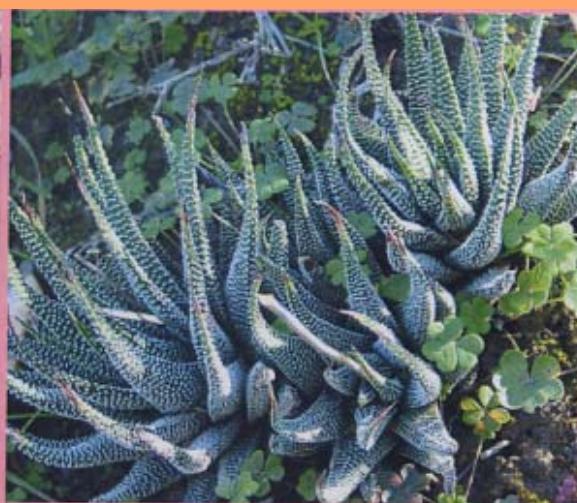
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*Aloe 'Novar'*



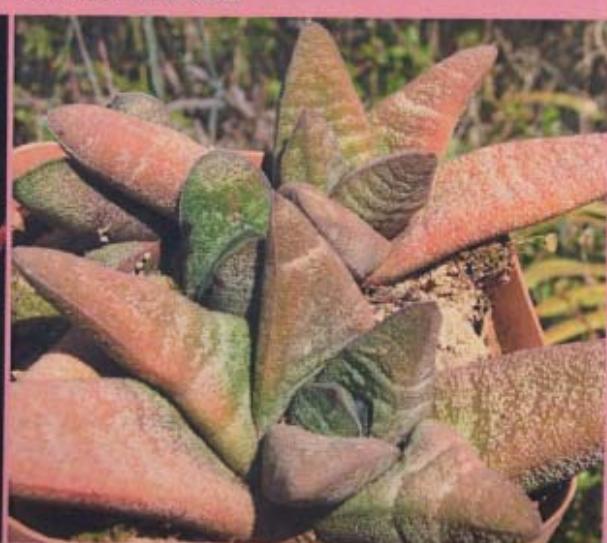
*Haworthia minima* east of Riversdale



MBB7804 *H. retusa 'nigra'* Kransriviermond.



*Astroworthia 'Towering Inferno'*



*Gasteria batesiana var. batesiana 'Sifula'*