ALSTERWORTHIA INTERNATIONAL

Aloe (Aloidendron, Kumara, Aloiampelos, Aristaloe, Gonialoe), Gasteria, Haworthia (Haworthiopis, Tulista), Astroloba, Chortolirion & cultivars.

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THE HUNTINGTON BOTANICAL GADENS 2017

INTERNATIONAL SUCCULENT INTRODUCTIONS (I.S.I.)

Photographs and text (adapted by the Editor) supplied by John Trager

International Succulent Introductions (ISI) is the plant distribution program of the Huntington Botanical Gardens, a private institution with a world-renowned Desert Garden. The ISI program has had a long-standing association with The Huntington since shortly after its inception in 1958. The program was adopted in its entirety by The Huntington in 1989 and furthers the institution's dedication to aesthetics, education, conservation and scientific study.

The aim of International Succulent Introductions is to propagate and distribute new or rare succulents to collectors, nurseries and institutions. In keeping with sound conservation practices, field-collected plants are not sold. We offer only propagated seedlings, grafts, tissue-cultured plants and rooted cuttings produced under nursery conditions without detriment to wild populations. Income is used solely to support this program.

The full 2017 offering may be consulted at < http://www.huntington.org/BotanicalDiv/ISI2017/catalogintro.html >

We are not able to ship plants to Napa or Sonoma Counties in California; Counties north of Los Angeles must include an additional $5 to cover mandatory pesticide treatment. The following states (subject to change) require an additional $105 certification fee for pest inspection by a California agricultural inspector: AL, AK, FL, ID, IN, LA, MS, NC, SC, TN, VA, WV. We regret that the certification fee has increased significantly for 2017 but suggest that customers in affected states pool their orders through local clubs to help spread the burden.

The cost of certification for plants and the time involved at the Huntington prohibit the export of I.S.I. plants. However, some I.S.I. plants are available in Europe through Succulent Tissue Culture. *Editor's note. I understand that the ISI plants sold by Succulent Tissue Culture are tissue cultured by that company. For further information please go to http://www.succulent-tissue-culture.com/EN.*

Aloe 'Corduroy' K. Zimmerman. ISI 2017-11.

Publication. C. & SJ. 2017, No. 3.

Parentage. [(*Aloe divaricata* x *Aloe* 'Dental Work') × *Aloe* 'Chameleon']. The cross was made March 30, 2007 and it was selected from a batch of seed sown October 30, 2007.

Description. It is distinguished by longitudinal raised lines and ridges. Please see more detail at right.

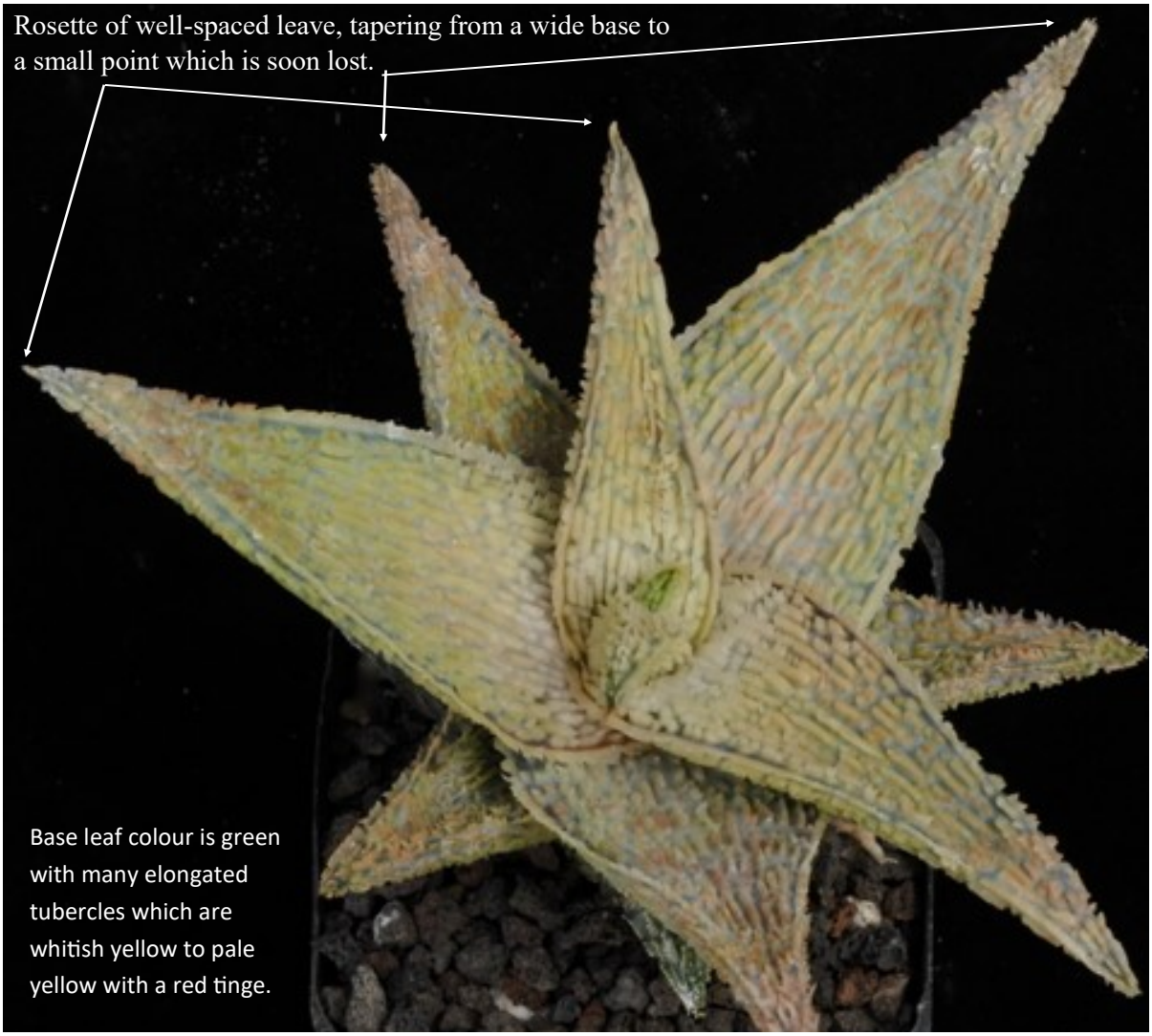
Comments. The latest of Karen Zimmerman's dwarf "fantasy aloes". The name, of course, is inspired by that fashionable fabric of days gone by which is said to have originated in western England. This aloe, however, traces its origin to various Madagascan species and builds on the prior hybridization work of Kelly Griffin and Karen Zimmerman.

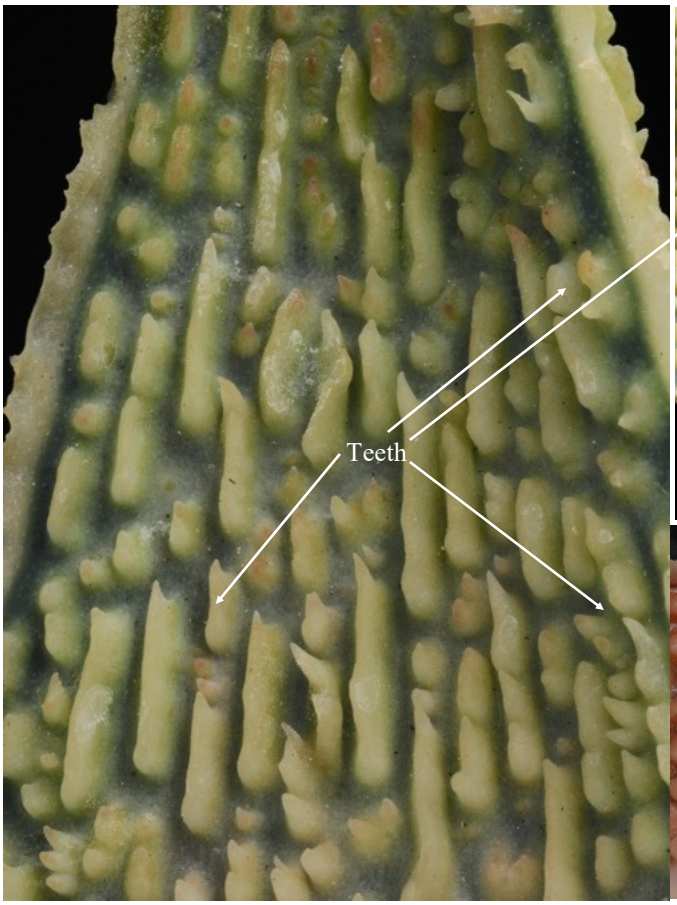
Propagation. ISI plants were tissue-cultures of HBG 127524. For home propagation take (limited) offsets.

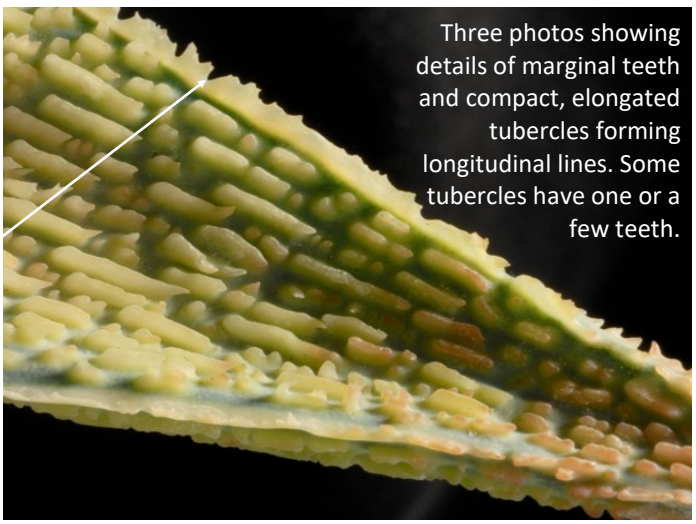
ISI plants were priced at $15.

Photos: Karen Zimmerman.

ISI 2017-12. _Aloe descoingsii_ Reynolds


Rosette of well-spaced leave, tapering from a wide base to a small point which is soon lost.
Base leaf colour is green with many elongated tubercles which are whitish yellow to pale yellow with a red tinge.


Teeth


Three photos showing details of marginal teeth and compact, elongated tubercles forming longitudinal lines. Some tubercles have one or a few teeth.


Red occurs in full sun (and possibly on oldest leaves) and in different intensities.

Publication. C. & SJ 2017, No. 3.

Parentage. Wild plant.

Description. Rosettes diminutive to about 4 cms. diameter, forming large mounds with a nearly ever-blooming habit with charming urn-shaped orange flowers with red stems. Leaves dark green, randomly spotter white. In strong light (sun) the dark green turns to greenish brown. Marginal teeth small, white. It has lent its genes to nearly every miniature aloe hybrid made, but none of these share its delightful floral morphology of short, urceolate corollas.

The rosettes offset and with some care will eventually form a mound of dozens or even hundreds of heads like the spectacular specimen the late Jerry Barad used to show every year at the Philadelphia Flower Show. By the time the Huntington acquired Jerry's collection last year, the specimen had become a bit threadbare so was divided for this offering. This is especially significant as it is the clonotype from which Reynolds described the species (flowering material vouchered in August, 1957 as Descoings & Reynolds 8304).

Comments. A few years ago John Trager had the opportunity to visit the French botanist Bernard Descoings, in the small village of Uzes in southern France where he has "retired" to work on the local flora and one of his chosen succulent specialties, Kalanchoe and Cyphostemma). I realized that, like most non-French speakers, I had been mispronouncing the aloe name. It is usually suggested that one pronounces a commemorative name more or less as it is by the one being honoured. In this case the pronunciation of Descoings in French is something like day-kwaa with a nasal twang to the final vowel. The typical American pronunciation of des-co-ing-zee-i is probably here to stay, but at least we can be aware that it honours Monsieur Day-kwaa! After all, the man brought to the attention of science one of the choicest Madagascan aloes. prized for its diminutive rosettes no more than 4 cm in diameter and with a nearly ever-blooming habit with charming urn-shaped orange flowers. It has lent its genes to nearly every miniature aloe hybrid made, but none of these share its delightful floral morphology of short, urceolate corollas.

Propagation. ISI plants are rooted offsets of HBG 106049, Descoings 2440, collected in 1956, at the type locality, atop limestone cliffs, ca. 350 m altitude, 46 km NE of Toliara,1 km beyond Anjamala, on the SE side of the Fiherenana River, Toliara Province, Madagascar.

ISI plants were priced at $7.

Photos: Karen Zimmerman.

ISI 2017-16. *Gasteria glauca* van Jaarsveld.

Publication. C. & SJ 2017, No. 3. The original description was published in the C. & SJ No. 2 1998.

Parentage. Divisions of HBG 104816, van


Strong light can
change the leaf colour
to brownish green.

Jaarsveld & Welsh 14670, collected from sheer, south-facing cliffs along the Kouga River, east of Guernakop, E. Cape, S. Africa.

Description. Related to *Gasteria ellaphiae* from which it also differs by its asperulous, glaucous leaves and larger flowers borne on unbranched racemes

Comments. ISI price was $6.

Propagation. Prolific offsets.

Photos: Karen Zimmerman.

ISI 2017-17. *Haworthia* 'Casper' J. Trager.

Publication. C. & SJ 2017, No. 3.

Parentage. This appears to be a selection of *Haworthia cymbiformis* var. *obtusa.*

Description. The plant offered here, while of similar ghostly

white to *Haworthia* 'White Ghost' has blunt, rounded leaf tips (reminiscent of the bald, rounded pate of the "Casper the friendly ghost" (cartoon character) with prominent translucent windows and are tipped with the terminal bristle characteristic.

Comments There already exists a *Haworthia* 'White Ghost', a variegated selection of *Haworthia retusa* var. *acuminata* which, as the varietal epithet implies, has pointed (acuminate) leaf tips.

Propagation. Divisions of HBG 119893, a plant received from Jerry Barad, August 30, 2002 but originally from Japan as a *Haworthia* 'Cuspidata' hybrid.

ISI price was $8.

Photos: Karen Zimmerman.

ISI 2017-8 *Haworthia maraisii* var. *meiringii.*

Publication. C. & SJ 2017, No. 3.

Parentage. Habitat plants.

Description/Comments. An aspect of plants that continues to confound hobbyists and botanists

For information on naming cultivars see International Code of Nomenclature for Algae, Fungi and Plants (Melbourne Code) 2012

alike is understanding the range of variation of species. The best way to get one's head around this is to observe natural variations throughout the range of a species in the field, but such thoroughness takes time and sometimes involves input of explorers spanning generations. For those of us who don't have the luxury of traversing vast swaths of habitat, we must rely on the observations and collections of those who go before us. Even then, explorers necessarily sample selectively from populations so that we often end up cultivating a single clone. Therefore, putting one's faith in the idea that we have the "true" species is potted in shaky ground, at best.


1a


1b

Here we offer a trio of collections of what are now considered to be the same taxonomic entity. The subtle differences can be fascinating and give a hint of natural variation. First we have a dwarf form (HBG 65389) long cultivated and illustrated by J. R. Brown (0152) as representative of the species. This forms clumps of 2.5 cm heads of a vivid green with two or three paler lines on the upper surface and lines of white teeth best developed on the margins and keel.

Next we have a more recent collection (HBG 69265), a plant brought to us in 1990 by Jim Berdach (11325, a division of J. D. Venter 86 -67 from Karsrivier in the W. Cape of S. Africa). This has slightly larger rosettes of slightly paler green. The leaves are more elongated and attenuate as are the teeth that line them and the paler lines on the upper surface merge to create a mostly paler field broken by some spots, paler or darker, and blunted teeth.


2a

Finally, we have a form (HBG 73793) that came to us from Bob Kent (0955) as "diversicolor". This has more open rosettes nearly twice the diameter of the others. Its leaves are darker blue-green making the paler lines, spots and basal area on the upper surface stand out more prominently. The marginal teeth are also more prominent and triangular. In addition, the flowers of this clone are slightly showier than most, white with a yellow throat that darkens with age. Being unable to determine which form was most deserving of wider distribution, I decided that all three were worthy. Therefore, we offer this trio of clones for your growing pleasure and taxonomic enlightenment, all for just $10.

Propagation. Cuttings of each clone - keep separate to ensure correct identification.

Photos: Karen Zimmerman.

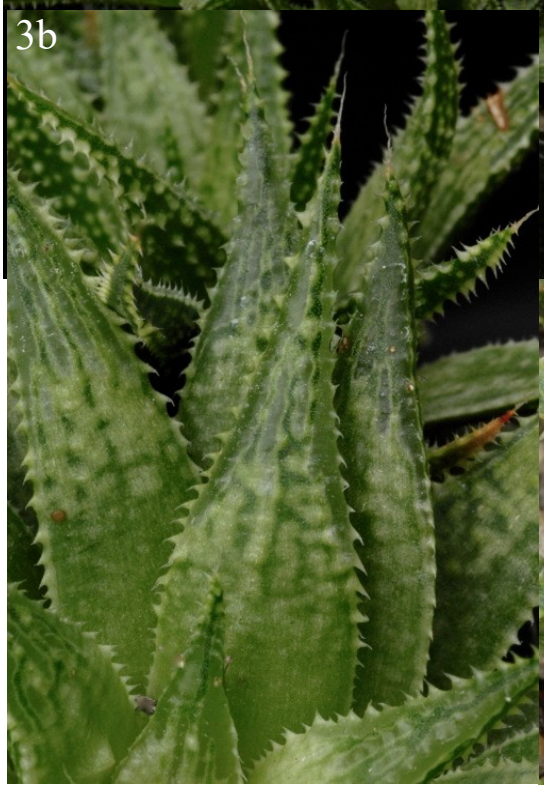
ISI 2017-19. *Haworthia mutica* 'Mootica' S. A. Hammer.

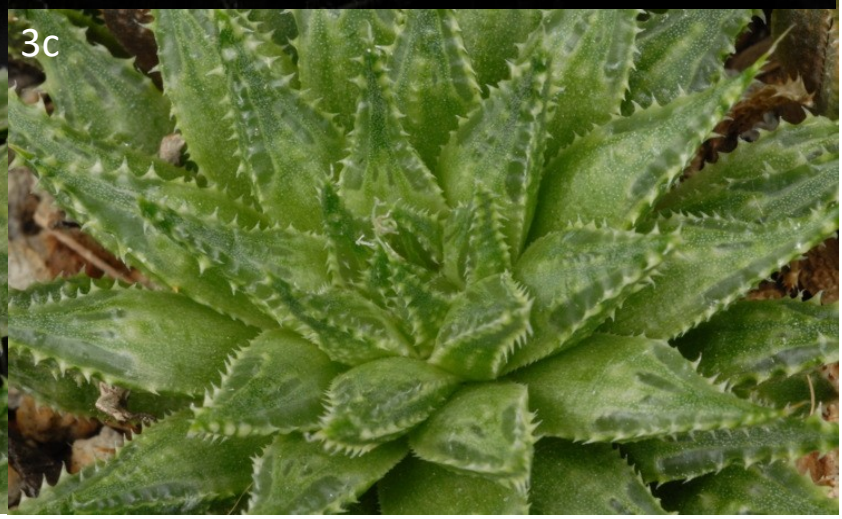
Publication. C. & SJ 2017, No. 3.

Parentage. Habitat plants.

Description/Comments.

Some haworthias have been the subjects of obsessive collecting and selection efforts, most notably *Haworthia truncata* and the related *Haworthia maughanii*. A few others, like *Haworthia mutica*, have also suffered the depredations of overzealous collecting. One population that grew on a





Haworthia maraisii var. *meiringii* JDV87 /121. N of Bonnievale in cultivation.

Haworthia maraisii var. *meiringii* JDV87 /121 N of Bonnievale in cultivation.
Note robust dark green leaves, stout marginal teeth, prominent white spots, central ribs.

farm called Drew was nearly decimated as of 1970 by farming as well as poaching because of its much sought-after white-frosted leaves. A lone specimen from Drew survived at the Karoo Botanical Garden in Worcester, S. Africa when Bruce Bayer was curator there so was referred to as the "White Widow". In exchange for repotting, Steven Hammer was allowed to extract two leaves that eventually rooted and produced a few plants that have been sparingly distributed. The original plant at Karoo BG got better and better with time, exhibiting the glacial pattern development exhibited in some haworthias. Subsequently, other frosted forms of *Haworthia mutica* were found in a population growing on a farm near Stormsvlei. Steven Hammer grew a few seeds from this locality and crossed the best frosted clone with "White Widow" to produce a number of seedlings. Five years later the best clone from this batch was used in a backcross with its lacto-tinged mother. An inflorescence from the best of the resultant seedlings was then initiated into tissue culture for this offering.

The cultivar name is inspired by Elsie, the cartoon cow developed as a mascot for the Borden Dairy Company in 1936 to symbolize the "perfect dairy product". The name 'Mootica' may not apply to the perfect, frosted haworthia but is fun to say especially if you choose the homonymous pronunciation of the epithet mutica rather than the alternate that sounds like "myootica". It is interesting to note that markings on the new leaves of *Haworthia mutica* 'Mootica' may at first show a slight golden tinge before turning milky white.

Propagation. Divisions of HBG 128481. The ISI price was $15.

Photographs. John N Trager.

ISI 2017-20. *Haworthia* 'Pearl Ball'.

Publication. C. & SJ 2017, No. 3.

Parentage. This choice hybrid of *Haworthia magnifica* var. is one of the complex creations (hybrid of hybrid of hybrid …) coming out of Japan.

Description/Comments.

It was selected for its ornamental foliage. The leaves bear a complex pattern of finely white-speckled white spots and raised bladder-like papillae that are translucent or clouded when merged with the white spots. On a green background, when grown in bright light, the entire plant can blush a deep purplish colour and the white spots turn pink.

Propagation. Plants from tissue culture of HBG 128480, ex Renny Hosagai who brought the plant from Japan where it is known as 'Shinju Dama' which translates as 'Pearl Ball'. The ISI price was $15.

Editor. Names in Japanese may be transcribed into English but Japanese names in English may not be translated into English. The original Japanese name in English is the correct published name.

ISI 2017-21. *Haworthia pygmaea* von Poellnitz.

Publication. C. & SJ 2017, No. 3.

Parentage. Wild plant, see below.

Description/Comments.

This is by no means the smallest haworthia, as the epithet might imply. Depending on growing conditions, and the clone being cultivated, rosettes can reach 6 to 8 cm diameter. The leaves are retuse, that is with flattened translucent tips that lie nearly flush with the surface of the ground.

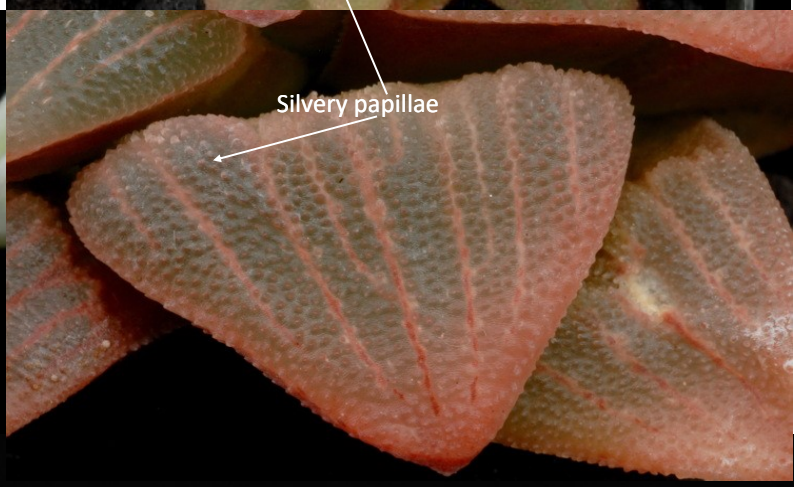
The most popular forms have large windows and are covered with making that appear to cover them with sugar crystals. This is such a form that came to us from

haworthia collector Bob Kent (his number 0087*). Another distinctive feature of this form is the prominent red mid-stripe of the relatively large floral bracts. The species is restricted to the areas around Great Brak and Mossel Bay, E. Cape, S. Africa.

Propagation.

I.S.I. plants* rooted offsets of HBG 73923. $7.

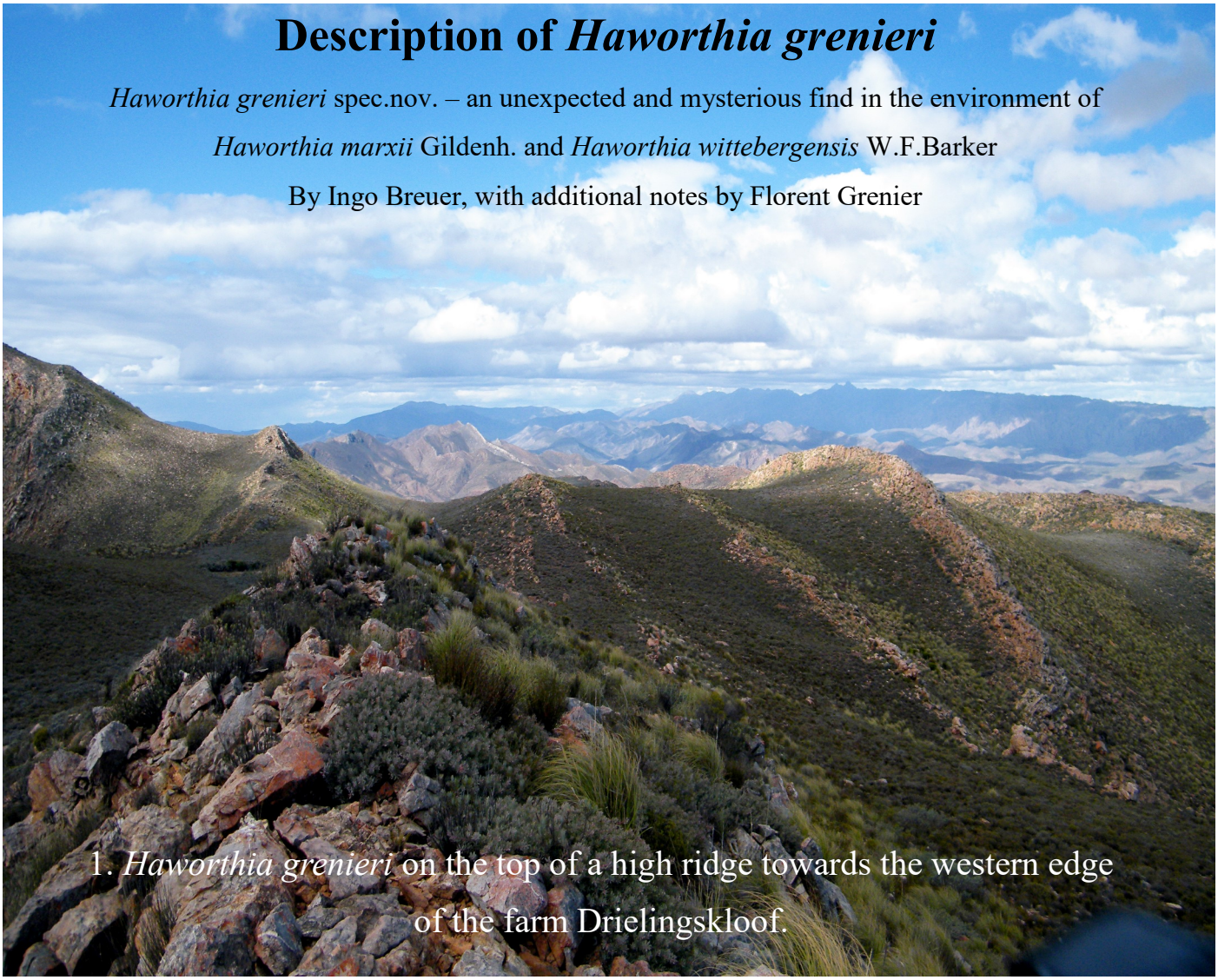
Photographs: Karen Zimmerman.



Description of *Haworthia grenieri*

Haworthia grenieri spec.nov. – an unexpected and mysterious find in the environment of *Haworthia marxii* Gildenh. and *Haworthia wittebergensis* W.F.Barker

By Ingo Breuer, with additional notes by Florent Grenier



1. *Haworthia grenieri* on the top of a high ridge towards the western edge of the farm Drielingskloof.

Abstract: A new species of *Haworthia* (Asphodelaceae, Aloaceae) is described, known only from a small area on the farm Drielingskloof, east of Rooinek Pass and on the top of a high ridge towards the western edge of the farm. There are no closely related taxa nearby. The greatest phenotypical similarity is with taxa of the *Haworthia monticola* group from the Uniondale / Willowmore area. Other taxa with comparable inflorescences are *Haworthia chibita* n.n. from Moordenaarskaroo, W of Ouland, N of Laingsburg (3220DD) and *Haworthia marmorata* from Tierberg, ENE of Prince Albert (3322AB).

***Haworthia grenieri* Breuer spec. nov.**

Type: South Africa, Western Cape Province, 3320 BD, Drielings Kloof, E of Rooinek Pass, SE of Laingsburg. Gerhard Marx - GM793 (holotype, GRA, ex cult). Deposite Date 5th July 2017.

Description:

Plants grow as a solitary rosette of 1 to 2 cm in diameter (in cultivation up to 4 cm).

Leaves numerous per rosette 40 to 52 (average), up to 15 mm in length and 2-3 mm wide, with an inward curving awn at the tips. Leaves generally three-angled, but often there is a double ridge along one side resulting in a 4th angle. Central ridge (keel) on the back of the leaf only stretches half the length of the leaf (about 7mm). All the leaf angles have a dense row of fine teeth. Leaves are dark green with a subtle, darker, tessellate pattern reminding somewhat of *Haworthia marmorata.*

Inflorescence is a solitary tiny raceme up to 10-15 cm long including peduncle, about 1 mm in diameter, with only 2-4 flowers. 1-2 inflorescences per rosette.

Flowers show close similarity to those of *Haworthia monticola* and *Haworthia zantneriana* (shares the same February-March flowering time as well), also to *Haworthia marmorata* (flowering November-December) and *Haworthia chibita* n.n. (flowering December-January).

Discussion

When *Haworthia* researchers came to know of this new

2. Habitat of *Haworthia grenieri*.

taxon, the perplexity was great because such a type of *Haworthia* was unknown in the larger area around Laingsburg. Consequently there was a lot of early discussion where to place it in relation to the known taxa of *Haworthia*! From the beginning of the discussion there was no doubt that this taxon will be a new species within the genus *Haworthia*. There are some common morphological features with certain plants growing around and at a reasonable distance. The numerous, dark green leaves show some affinities to *Haworthia archeri* type plants, but the inflorescence is not similar. A closer relation is with the (yet undescribed) taxon *Haworthia chibita* n.n. which has also very small growing rosettes and a tiny inflorescence with few flowers. The differences are exhibited in the plant rosettes not having as many leaves and they are stoloniferous offsetting. Another taxon with dark green, tiny rosettes grows in the Tierberg mountain range E of Prince Albert, also with a delicate inflorescence with few flowers. However, this taxon also has a smaller number of leaves which are quite wide and short with a prominent tessellate pattern. It offsets from the base.

If one compares the morphological features of *Haworthia monticola* from Uniondale Poort (3323CA) with those of *Haworthia grenieri* from Drielingskloof (3320BD), it seems that this is the best match in relation to the other above mentioned taxa. The only consideration that one must take into account when making this comparison is the rather large distance between the localities where they are found. The other taxon which also shows similarities with *Haworthia grenieri* is *Haworthia chibita* n.n. from Moordenaars-karoo, but the author does not know the locality of this record from Peter Bruyns (PVB3109) personally and so the growing environment is unknown. Therefore, the decision was to keep this new taxon within the *Haworthia monticola* group and to observe its development in cultivation in relation to *Haworthia monticola.*

Another interesting point is the co-occurrence with *Haworthia wittebergensis* in the same crack of rocks as one can see from the picture shown. There are several plants of *Haworthia wittebergensis* along the crack on the left side and the right one has a two-flowered inflorescence of *Haworthia grenieri*. This means that

3. Habitat of *Haworthia grenieri*.

4. Several plants of *Haworthia wittebergensis* along the crack on the left side and the right one with a two-flowered inflorescence is *Haworthia grenieri*. Grenier.

they have a different flowering time which keeps them from hybridising with each other.

In this case it would have been very helpful if we could have had a DNA analysis of the relevant taxa for comparison but, unfortunately, no such investigation was available.

The main reason for visiting this area was to find more records of *Haworthia marxii*. The plants of *Haworthia marxii* which were found at the time of the visit were not in a good condition, as one can see from the picture and there is no co-occurrence with *Haworthia grenieri*.

Along the northern foothills of the complete Swartberg Mountain ranges there are only very few known records of

5. *Haworthia grenieri* in habitat.

Haworthia taxa because of the difficult accessibility to this area, but one can expect more elements which would fill the gaps and complete the mosaic of knowledge about the distribution of the genus *Haworthia*.

An account of the discovery.

By Florent Grenier

In April 2013, I was in South Africa for the fifth time, conducting research on the pollination ecology of *Haworthia* species and on hybridisation between co-occurring *Haworthia* species in the Overberg area (Western Cape). From my low-lying field sites I felt attracted to all the big hills that overlook the Overberg from the North (the Langeberg range) as well as to the succulent-rich hills that hide behind Anysberg, Swartberg, etc. Every now and then I would venture out on those

6. *Haworthia* grenieri in habitat.

7. *Haworthia grenieri* in habitat

8. *Haworthia wittebergensis* in habitat.

9. *Haworthia wittebergensis* in habitat.

10. *Haworthia wittebergensis* in habitat.

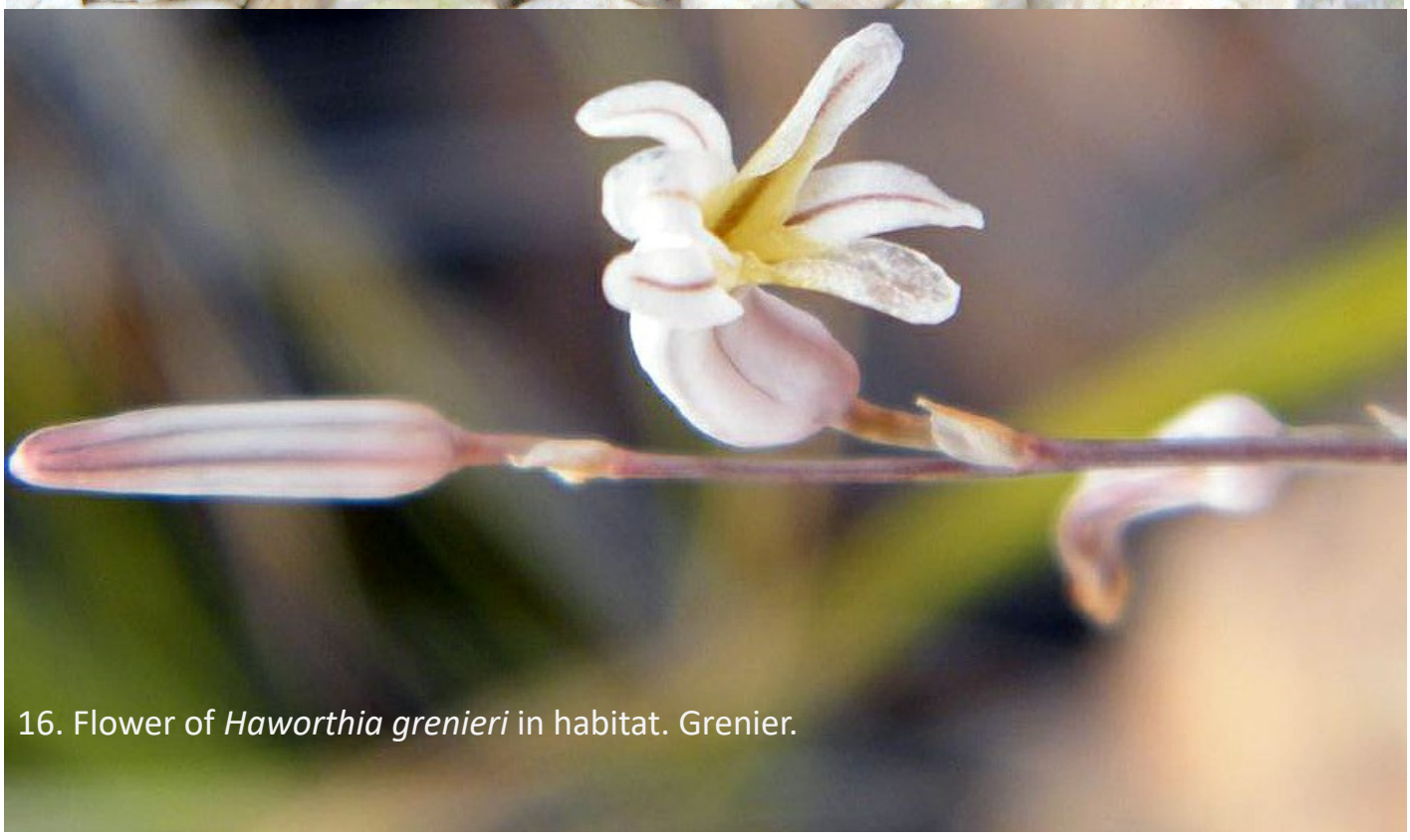
11. *Haworthia marxii* in habitat. Grenier

12. *Haworthia grenieri*, holotype before preparation. Marx .

13. *Haworthia grenieri* in cultivation. Grenier

14. *Haworthia grenieri* in cultivation. Grenier

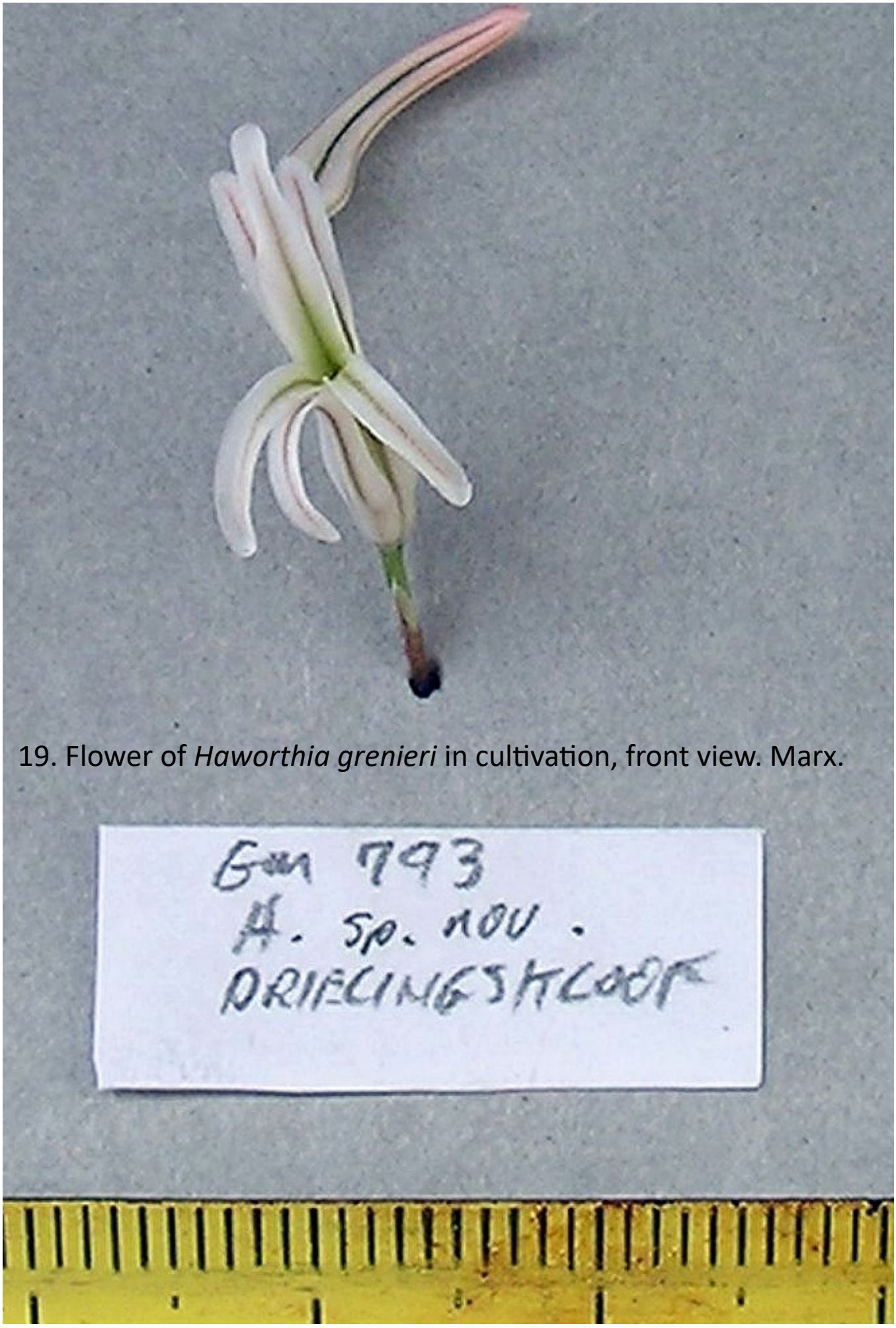
15. *Haworthia grenieri* in cultivation. Breuer



16. Flower of *Haworthia grenieri* in habitat. Grenier.

17. Flower of *Haworthia grenieri* in habitat. Grenier.

18. Flower of *Haworthia grenieri* in cultivation, sideview. Marx



19. Flower of *Haworthia grenieri* in cultivation, front view. Marx.

20 Inflorescence of *Haworthia grenieri* in cultivation. Breuer.

21. Top of inflorescence of *Haworthia grenieri* in cultivation with seed capsules.

22. Seed capsules and seeds of *Haworthia grenieri* in cultivation. Marx.

23. *Haworthia monticola*, IB7096, Uniondale Poort. 3 km from S-entrance. 3323CABreuer

24. *Haworthia archeri*, JDV87-189, Ghaapkop, Matjiesfontein, 3320BA. Breuer.

hills to explore, look at the interesting succulents and enjoy the landscape. One week-end, the mission I set myself upon was to find new populations of *Haworthia marxii*, which by then was known only from two populations containing no more than 100 plants. After getting acquainted with the type of habitat that this species likes, I set out to explore the remote parts of the farm. It was a thrill to find an unreported third population of *Haworthia marxii* at a mere 2 km from the original TL spot with 42 plants. I then kept going west, wishing to find more. After a while I found myself walking on a high ridge, not the right habitat for my focus-species, but a stunning view over to the North (Moordenaars Karoo) and to the South (Little Karoo). Going back to looking at my feet, I noticed the presence of hundreds of *Haworthia wittebergensis* in the cracks of the rocks. A beautiful species. As I walked by, I noticed an inflorescence sticking out of one of those cracks. Surprised as none of the other *Haworthia wittebergensis* were flowering, I looked closely in the crack to realise that this thin inflorescence did not belong to *Haworthia wittebergensis,* but to an even smaller dark-bodied species of *Haworthia.* I could not identify that one straight away. What struck me was its extremely small size (a single head's diameter averages 14 mm in nature), as well as its rarity. Indeed, after looking for a while on the ridge, I could only find about 10 plants. The plants were so deeply wedged inside the rock cracks that close inspection was difficult. At the time I thought that they were a minute form of *Haworthia archeri*, but remembering that this species was known to flower earlier in summer, it made it unlikely. Being not so acquainted with species of small-leaved *Haworthia*, I left it as *Haworthia* sp. 'Rooinek Pass'. Now, following observations and comparisons under common garden conditions, I feel happy with its current placement in the group of *Haworthia monticola*. Luckily, this elusive species remains well hidden from the sheep and from potential indelicate visitors! There is no doubt that it could well pop up at several other places in the future with the help of keen explorers, time and patience.

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· Aloaceae *Haworthia arachnoidea* (L.) Duval var. *joubertii* (M.Hayashi) Breuer -- Alsterworthia Int. 16 (2): 5. 2016 [25 Jun 2016] ; nom. inval.
· Aloaceae *Haworthia arachnoidea* (L.) Duval var. *laxa* (M.Hayashi) Breuer -- Alsterworthia Int. 16(2): 5. 2016 [25 Jun 2016] ; nom. inval.
· Aloaceae *Haworthia arachnoidea* (L.) Duval var. *limbata* (M.Hayashi) Breuer -- Alsterworthia Int. 16 (2): 5. 2016 [25 Jun 2016] ; nom. inval.
· Aloaceae *Haworthia cangoensis* M.Hayashi var. *kogmanensis* (M.Hayashi) Breuer -- Alsterworthia Int. 16(2): 5. 2016 [25 Jun 2016] ; nom. inval.
· Aloaceae *Haworthia cangoensis* M.Hayashi var. *royalis* (M.Hayashi) Breuer -- Alsterworthia Int. 16(2): 5. 2016 [25 Jun 2016] ; nom. inval.
· Aloaceae *Haworthia cyanea* (M.B.Bayer) M.Hayashi var. *ianthina* (M.Hayashi) Breuer -- Alsterworthia Int. 16(2): 5. 2016 [25 Jun 2016] ; nom. inval.
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· Aloaceae *Haworthia lapis* Breuer & M.Hayashi var. *rava* (M.Hayashi) Breuer -- Alsterworthia Int. 16 (2): 6. 2016 [25 Jun 2016] ; nom. inval.
· Aloaceae *Haworthia nortieri* G.G.Sm. var. *montana* (M.Hayashi) Breuer -- Alsterworthia Int. 16 (2): 6. 2016 [25 Jun 2016] ; nom. inval.
- Aloaceae *Haworthia odetteae* Breuer var. *odyssei* (M.Hayashi) Breuer -- Alsterworthia Int. 16(2): 6. 2016 [25 Jun 2016] ; nom. inval.
· Aloaceae *Haworthia pilosa* M.Hayashi var. *ciliata* (M.Hayashi) Breuer -- Alsterworthia Int. 16(2): 6. 2016 [25 Jun 2016] ; nom. inval.
- Aloaceae *Haworthia rooibergensis* var. *erii* (M.Hayashi) Breuer -- Alsterworthia Int. 16(2): 6. 2016 [25 Jun 2016] ; nom. inval.
- Aloaceae *Haworthia angiras* M.Hayashi Haworthia Study 14: 13 (-14; fig. 3). 2005 [Dec 2005] Nomenclatural Notes: nom. inval. herbarium where type conserved not specified.