

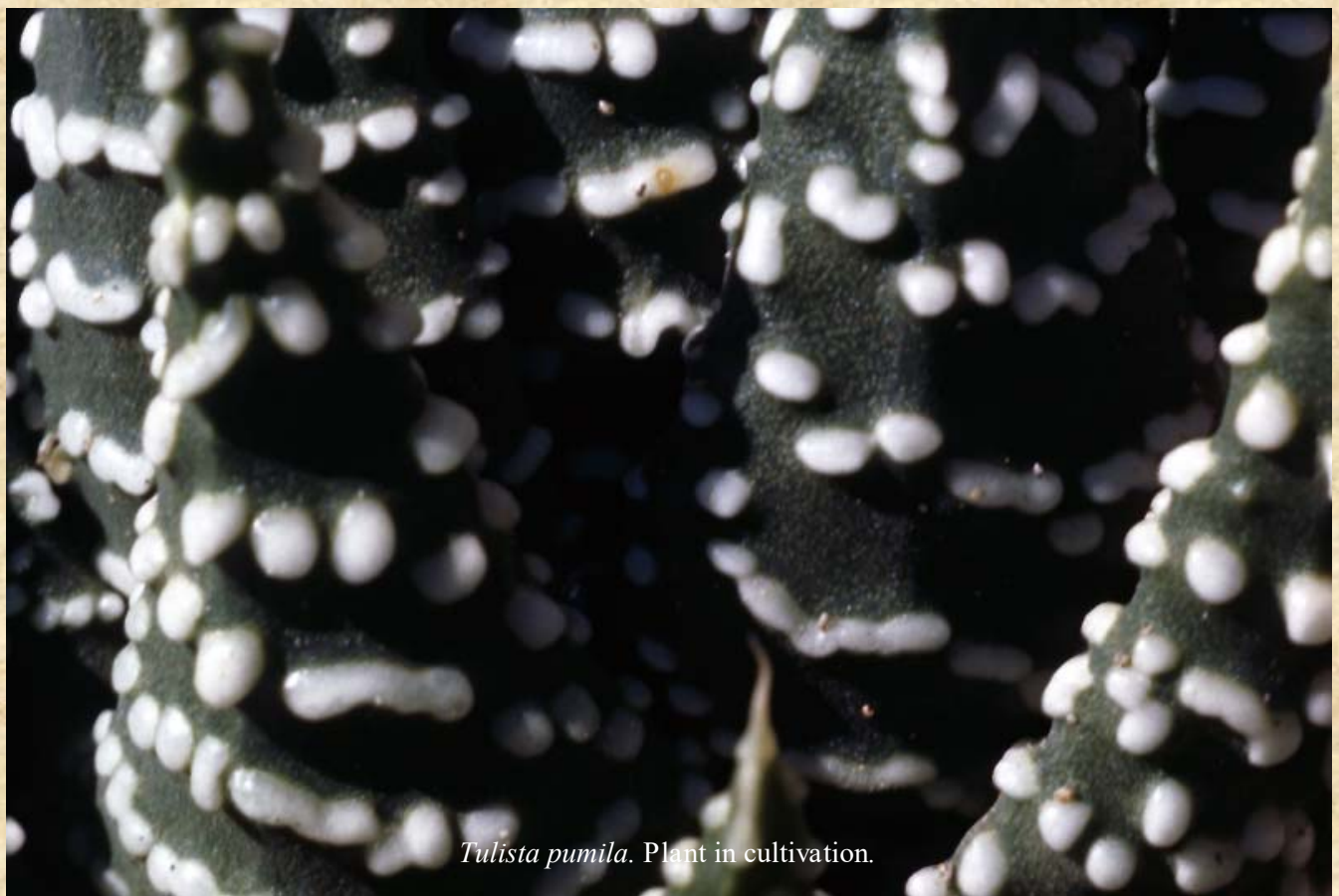
ALSTERWORTHIA

INTERNATIONAL

THE

SUCCULENT ASPHODELACEAE

JOURNAL



Tulista pumila. Plant in cultivation.

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MEMBERSHIP FEES FOR 2014

The world has changed quite rapidly in a very short period of time. When Alsterworthia International was inaugurated in 2001, membership fees were paid predominantly in foreign currency to honorary overseas representatives and to a lesser extent by EU, UK and USA bank notes (left over holiday money). We owe a great deal to our representatives as they were primarily responsible for recruiting members, who formed the basis of our success. As new methods of payment were developed and found favour with many members, we had to reconsider the payment methods offered. We still do not offer credit card payments, because of their high cost, but we do offer PayPal which is less costly and quicker. We do not now actually *offer* the facility to pay by bank notes, because of the risk of loss in transit, but, if you are prepared to accept the possibility of loss in transit, we will still accept them.

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Haworthia Update

Essays on Haworthia
Volume 10
(Appendices to Update 8)

Bruce Bayer



Haworthia miniella. 8041. Schattsberg East

Haworthia Update Essays on Haworthia Volume 10 (Appendices to Update 8) Bruce Bayer.

Publication date: 4th September 2013.

Update 10 is printed on A3 gloss art paper, machine stapled then folded and guillotined to A4 size.

There are 52 A4 pages including the cover.

Bruce Bayer reports on more field research he has carried out on additional populations relative to his report in Update 8. He has published them as a series of appendices to Update 8 and, as usual, illustrated them with habitat plant photographs and many photographs of flowers, all in colour.

Recommended retail price is £29.50 + p & p surface mail.

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Non-members may order Update 8 direct from book sellers, but if there are any problems please contact Harry Mays.

Members' orders should be sent to:

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Cultivars and Names

Dr. M. Hayashi

All the *Haworthia* cultivar names published in Japan since 1905 to date are published in the Home page of the *Haworthia* Society of Japan (in the Cultivar page). < <http://www.haworthia.net> >. Though old catalogues of some closed nurseries could not be located, the list may contain almost all cultivar names in Japan.

The list, however, is not yet complete. Many items are under investigation. The list will be corrected and supplemented frequently based on new publications or newly located old information.

Many people including nurserymen and experienced amateurs often misunderstand the term "cultivar". A cultivar should have "particular, distinct, uniform and stable character(s)" (International Code of Nomenclature for Cultivated Plants (ICNCP) 2009: Art 2.3), and should be published with a description (Art 27.1) that indicate one or more recognizable or distinguishable characters from other cultivars or Groups at that time (Art 27.2).

If it is difficult to describe a cultivar's distinguishing differences from others, it is not a cultivar under the ICNCP. A photo cannot substitute for a description, though it is very helpful to understand the cultivar and its characters.

Many "cultivars", especially in *H. truncata* and *H. maughanii* resemble each other and it is difficult to indicate their differences. These cannot be named cultivars under the ICNCP.

Most clones of 'Dragon' (*H. maughanii*) seedlings have nice white markings on the window, but they resemble very much each other. In such a case, each single clone cannot be a cultivar, but whole seedling set can be a Cultivar Group (for example: Drako Group with necessary description (definition). Art. 3.1 of the ICNCP states "The formal category which may comprise cultivars, individual plants or combination thereof on the basis of defined character-based similarity is the Group." 'Dragon' seedlings produced by different persons can be called by the same group name, if they have the same (similar) characters described previously. If a 'Dragon' seedling set has different characters from Drako Gp (i.e. by characters produced by different combination of parents), they should be given a different Group name.

As for "Tsukahara seedlings", they have very variable distinctions and cannot be given a Cultivar Group name.

Some people emphasize the difference of origin (parents, breeder or breeding place etc.) to separate



1
Haworthia 'Daikoku'. Window irregular edges.
Virus infected form. L = 10 cm, W = 3.5 cm, Height 1.3 cm.



2
Haworthia 'Fugaku'. Windows smooth edges.
Healthy form. L. 9.5 cm, W. 3.5 cm, H. 1.3 cm.



3
Haworthia 'Onimusha' from U.S.A.
Plant has curvy leaves with scars, often split.
Virus infected? Diameter = 9 cm.



4
Haworthia 'Onimusha' tissue cultured.
Grows bigger, more robust and never splits.
Healthy form. Diameter = 11 cm.

similar cultivars, but this cannot distinguish a cultivar. (Art 2.20). A cultivar depends on the differences in the cultivar characters. 'Daikoku' (Fig. 1) and 'Fugaku' (Fig. 2) look very similar, but the former always has irregular, scar-like dents on the window, while there are no such dents in the latter. These features distinguish the cultivars. The former may be a virus infected form.

Original plants of 'Onimusha' (Fig. 3) often produces curly leaves with scar-like lines and the plants often splits. All the plants propagated by leaf cutting from the original have same nature.

Tissue cultured plants of 'Onimusha' (Fig. 4) grow very healthy without any curly leaves or splitting. It is bigger and more robust with wider leaves than the original. These differences are stable and keep well when they are cultured in the same conditions.

This phenomenon strongly indicates that the former (original and its leaf cuttings) is infected by virus. We should pay more attention for virus infection. Some nursery sells plants with a certain Group name including those with no particular distinction of the Group. Such plants should not be sold with same Group name, though they are produced from the same parents. Group name should be only applied to those having standard distinction of the Group.

Some other nurseries sell plants with a new name, though it already has a published, known name. The new name is often similar to a well-known, famous one.

Such sales are obviously unfair, prohibited by law, though they declare that the new name is their original.

Most cultivar names in Japanese catalogues do not have the necessary descriptions and are invalid. Harry Mak indicated this and created many new names for them, but his new names are not used in Japan at all and it is clear that Japanese breeders of these cultivars do not accept his names. Such names are "to be rejected" (Art. 31.4). In these cases, we have to validate the original names to avoid confusion by adding the necessary descriptions.

Editor's Note.

Dr Hayashi highlights a problem which is world wide. Names are all too often used without knowledge of the International Code of Nomenclature for Cultivated Plant. There is no excuse for this as the ICNCP is available free of charge from http://www.actahort.org/chronica/pdf/sh_10.pdf. Please do use it and make its availability know to your friends and particularly to nurseries in your area.

Publishing a correct cultivar or Group name and correcting an incorrect name avoids confusion and gains you respect. Help is always at hand. If you wish to publish in Japanese contact Dr M. Hayashi < info@haworthia.net >; if you wish to publish in English please contact me < hmays@freenetname.co.uk >. Help is free.

Haworthia Study - Updated Information.

Details of prices for Haworthia Study, the Japanese Society journal, were given on page 13 of the November 2012 Alsterworthia International journal. That information is still valid, but it is supplemented by the following.

The second Haworthia Study for 2012, number 28, is being replaced with a Special Issue on Japanese cultivars, which is much larger than a journal, so it will be charged for separately - details to be announced. The annual subscription paid for 2012 will now cover the two Haworthia Study numbered 27 & 29. Subscribers will already have received 27. 29 will be published sometime after July 2013. The next "annual" subscription will be for number 31, which will be the last for 2013 and number 32, which will be the first for 2014. Thus, the annual subscription, which was for two issues of Haworthia Study in one calendar year, is now for two issues, one of which will be published in the second half of one year and the other in the first half of the next year.

The cost of *back issues* in Yen, not including postage, is equal to the cost of current issues expressed in pounds

(£10.00 each excluding postage). Postage will be added in Yen for the country of destination for back issues. Members and non-members who require back issues of Haworthia Study will receive them direct from Japan. They will normally be ordered in pairs, but single copies may also be ordered. Back issue orders should be sent direct to Harry Mays, hmays@freenetname.co.uk, who will advise the total cost in Yen to cover the cost of the journals plus Japanese postage direct to the purchaser. The purchaser should send the total amount in Yen direct to Dr Hayash, m-hayashi@nausica.jp, by PayPal or by bank draft drawn on a Japanese bank. The back issues will be sent direct to the purchaser as soon as payment is received in Japan.

Please note that the current year for back issues is the year in which the journals were scheduled to be publish. For example, following on from the foregoing, the current year for issues with numbers 27 & 29 is 2012 up to and including July 2013, compared with numbers 30 and 31 for which the current year is August, 2013 - July 2014. For years prior to 2012 the current year is the calendar year. Renewal on time avoids ordering back issues.

GENERIC CONCEPTS IN THE ALOOIDEAE

PART 4

HAWORTHIOPSIS AND TULISTA - OLD WINE IN NEW BOTTLES GORDON ROWLEY

Tulista pumila

Alooideae, apart from being the only 9-letter word I can think of with 7 vowels and only 2 consonants, have provided a special interest for me for over 50 years. In many ways this subfamily of Asphodelaceae (or Xanthorrhoeaceae if you prefer) is a good subject for studying evolution, and few succulents enjoy so much favour with growers or inspire so vast a documentation: the study advancing electronically at an even faster rate. As Daru et alia (2013) point out, the subfamily is defined on chemical characters as well as cytological: a basic set of 4 long and 3 short chromosomes among the largest and easiest to study in all succulents.

Today it can be visualised as a tree-like diagram, a cladogram: the trunk represents common origin and the branches or twigs are clades (Fig. 4, page 9). The aim is to relate all plants on a basis of common origin by their shared DNA (deoxyribonucleic acid in case you were wondering). Every change in DNA means a branching of the tree: the older the change the farther back down

the trunk the clades diverge. When it comes to pinning categories and names on the twigs, the levels at which we recognise genera, subgenera, species and so on remains a matter of personal opinion: there is no absolute rule. But we have to bear in mind that all classification should serve the needs of retrieval and identification. The big snag, as efforts are made to improve the system, is that rearrangements may involve changes of name: an inevitable consequence of adopting the Linnaean concept of binomial names for all plants.

The wide acceptance of phylogenetic evidence from DNA today has supported some reshaping of genera within the Alooideae; not all that many considering that it is a group of over 700 species. The six genera recognised by Eggli (2001) become eight today with some re-shuffling and renaming (Rowley 2013). The results are best presented in the form of a key, bearing in mind that few keys are 100% accurate and that exceptions will be found on occasions.

KEY TO THE GENERA OF ALOOIDEAE

- A Treelike with a branching crown; leaves spiralled ALOIDENDRON
- AA Shrubby or dwarf, branching at or near the base; leaves spiralled or distichous.....B
- B Ramblers with long internodes and isolated spirally arranged leavesALOIAMPELOS
- BB Not ramblers with long internodes.....C
- C Leaves distichous, at least initially.....D
- D Dichotomously branched shrub with all leaf rosettes fan-shaped; leaves linear, greyish, glaucous.....KUMARA
- DD Stemless or nearly so with concealed internodes; leaves mostly dark green, dappled.....GASTERIA
- CC Leaves spiralled, or if distichous then not shrubby.....E
- E Flowers red or yellow (rarely white), tubular with exerted anthers, \pm actinomorphic, without spreading tepals (Check out *A. aristata* and *A. rubriflora* here, now referred to *Tulista*.)... ALOE
- EE Flowers (Fig. 2) white or pallid greenish, small and less showy, zygomorphic or at least \pm two-lipped with included stamens.....F
- F Leaves in 5 spiralled series up the stems: flowers squat, radially symmetrical.....TULISTA
- FF Stemless or with leaves in 3 \pm spiralled series up short stems; flowers oblique-limbed, 2-lipped.... G
- G Inflorescences usually unbranched; flower tube narrowly conical, usually \pm curved, with a hemispherical base.....HAWORTHIOPSIS
- GG Inflorescences usually developing 1 or more branches; flower tube broadly conical, straight, with rounded hexagonal base.....TULISTA

NEW LOOK GENERA

ALOE

Aloe, second largest of all genera of succulents, has been trimmed by the removal of three clades that jarred the pure vision of a monophyletic branch:

Aloidendron now covers the largest tree species: *A. dichotomum*, *A. pillansii* and four more; *Aloiampelos* includes scramblers and climbers such as *A. ciliaris* and five allies, and *Kumara* separates *A. plicatilis*, shrubby with forked branches and fan-like leaf displays.

In return, *Chortolirion* is now nested within *Aloe* alongside the grass aloes which it resembles.

Further changes involve the *Haworthia* group: compact leaf succulents so dear to the hearts of many collectors today. Whether or not they will be persuaded to rewrite any of their labels I cannot guess, but the plants will remain no less beautiful as "roses by any other name".

A.J.A. Uitewaal (1899-1965) was a Dutch enthusiast who collected and studied haworthias and strove to classify the species into workable groups. A modest, retiring man, he was ill-equipped to face the slings and arrows of taxonomic combat and left the field early, but not before he had provided us with a separation of the genus into three groups based on the inflorescence and shape of the flowers rather than on the leaves. These groups have stood the test of time and were re-examined by Bruce Bayer in 1972, who hinted that they might one day merit generic status. That has indeed now happened, to bring them into line with the remaining genera (Rowley 2013).

HAWORTHIA

This is now restricted to the Subgenus *Haworthia*: the great majority of species recognisable for their typically plump, pale green, partially translucent, veined leaves lacking dark colouring, tubercles or spiny tips. In the Daru survey 35 were sequenced.

HAWORTHIOPSIS

Haworthia Section *Hexangularis* becomes the Genus *Haworthiopsis* with 16 species characterised by firmer, darker-coloured leaves often rough, or finely tubercled:

<i>H. attenuata</i>	<i>H. granulata</i>	<i>H. scabra</i>
<i>H. bruynsii</i>	<i>H. limifolia</i>	<i>H. sordida</i>
<i>H. coarctata</i>	<i>H. longiana</i>	<i>H. tessellata</i>
<i>H. fasciata</i>	<i>H. nigra</i>	<i>H. venosa</i>
<i>H. glauca</i>	<i>H. reinwardtii</i>	<i>H. viscosa</i>
		<i>H. woolleyi</i>

GASTERIA

Gasteria has been spared any disruption in the present upheaval. The 18 species so far examined are all related to one another and belong to a single clade, closest to

In *Alsterworthia International* 13(2)26 (July, 2013) *Aloe viscosa* was accidentally referred to two genera; *Haworthiopsis* and *Tulista*, invalidating the publication of both names. *Tulista viscosa* should be deleted.

The correct assignment is:

Haworthiopsis viscosa (L) n. comb.
Aloe viscosa L. Sp. Plant. 1: 322, 1753.

Haworthiopsis.

TULISTA

I have searched in vain for clues as to the origin of this generic name, created in 1840 by the eccentric botanist Rafinesque and typified by "*T. margaritifera*" alias *Aloe pumila* of Linnaeus (Fig. 1).

Circumscribed at the same level as the other genera, it brings together separate clades for *Astroloba*, *Haworthia* Sect. *Robustipedunculares*, *Poellnitzia* and, most surprisingly of all, *Aloe aristata* (Fig. 3.). Putting all these together into one genus of 14 species may seem

Fig. 1.

1000, TULISTA Raf. diff. Aloes, perig. tubul. 6gonis dentib. 6 ineq. vix labiatis fol. verrucis vel maculis albis ferens—another G. the flowers are racemose, the type is *T. margaritifera* Raf. Aloes do Auct. African. leaves which pearly warts, fl. small in a slender spicate raceme—a 2d sp. of this G. is *Al. variegata* of authors. †

All these Aloes are very rare in Herbals being so difficult to dessicate—there are 2 others G. yet blended in *Aloes*,—My *Papilista* with clavate fl. type *A. verrucosa*—and my *Succosaria* with campanulate fl. type *A. spicata* &c.

odd to some, but the alternative would be to have four even smaller genera, two of them monotypic. We have many other examples of genera that are hard to delimit,

Fig. 3. *Aloe aristata*

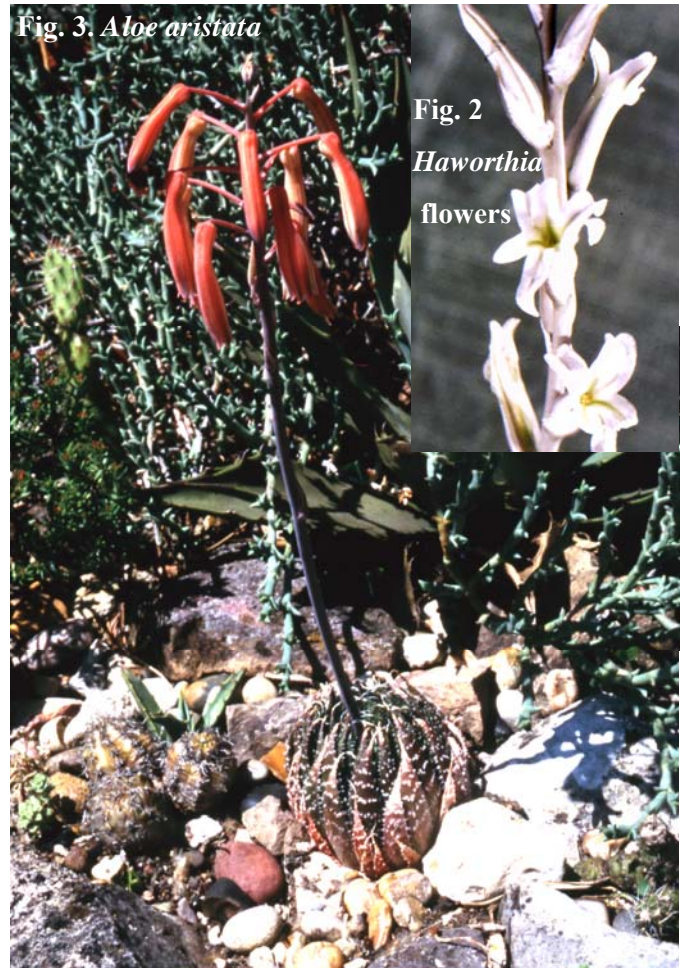


Fig. 2
Haworthia
flowers

but closer observation can reveal new characters, such as the floral differences noted by Uitewaal among his haworthias. I have ventured a key to 13 confirmed species, of which two require validation for the names:

Tulista bullulata (Jacq.) n.comb.

based upon *Aloe bullulata* Jacquin in *Fragmenta Botanica* P.72 t.109, 1800-1809.

Tulista X bicarinata (Haw.) n. comb.

based upon *Apicra bicarinata* Haworth in *Supplementum Plantarum Succulentarum* p.63, 1819. A wild hybrid of *T. corrugata* X *pumila*. (Not included in Key to Species.)

Aside from *T. aristata*, which is common, easy to grow and the hardiest of all Alooideae outdoors in the London area, I have found the other *Tulista* species less easy to keep in good condition than the softer greener-

KEY TO THE SPECIES OF TULISTA.

- A Flowers red to orange.....B
- B Stem to 25 cm tall; leaves rigid, entire, sharp pointed; tepals incurved at the apex.....*T. rubriflora*
- BB Stemless with leaves soft with a flexible white tip and lateral fine prickles towards the apex; tepals slightly incurved and expanding towards the apex*T. aristata*
- AA Flowers not brightly coloured, white or pallid.....C
- C Flowers actinomorphic; leaves spiralled up the elongated stems in 5 seriesD
- D Leaves with conspicuous white tuberclesE
- E Leaves 14-25 mm long, spreading, with an oblique keel*T. corrugata*
- EE Leaves 23-40 mm long, ascending, with a central keel*T. bullulata*
- DD Leaves without tubercles, smooth or at most ruguloseF
- F Leaves grey glaucous with ridged veins below; outer tepals with swollen wavy bulges.....*T. herrei*
- FF Leaves light to dark green, at most glaucescent, no prominent veins; tepals not so.....G
- G Leaves 20-47 mm long, with margins and keel often white-edged; inflorescence strict, sparingly branched..... *T. congesta*
- GG Leaves 9-24 mm long, uniformly coloured; inflorescence lax, rarely or not branched..... H
- H Leaves ascending to erect, often white spotted; tepals yellow tipped, with rough corners*T. spiralis*
- HH Leaves spreading to ascending, rarely spotted; tepals cream tipped, smooth.....*T. foliolosa*
- CC Flowers ± two-lipped; stems undeveloped, or with leaves spiralled in 3 series.....I
- I Leaves smooth, without tuberclesJ
- J Leaves in 3 series up short columns.....*T. pungens*
- JJ Stemless with leaves spiralled, not in 3 series.....*T. marginata*
- II Leaves rough with small or large white tubercles.....K
- K Leaves studded with large white tubercles.....*T. pumila*
- KK Leaves rough with tiny tubercles.....L
- L Leaves shining yellowish green... *T. kingiana*
- LL Leaves dull, brownish green...*T. koelmaniorum*

leaved haworthias, and they also do not root and sprout so readily from leaf cuttings as most haworthias do.

With so much interest in Alooideae today and intensive exploration of the habitats, it would be helpful to have more information on the insect and other pollinators of each species in the wild. Subtle differences in flower shape and nectar presentation must surely be related to accommodating one pollinator and excluding another: tube length, nectar pouches, rigid support for weightier visitors, and so on. Is anyone tempted to start a survey?

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Key to figures.

Fig. 1 Rafinesque's idiosyncratic presentation of genera in his *Autikon Botanikon* of 1840, page 157.

Fig. 2 *Haworthia* flowers: not showily coloured, small and tailor-made for accommodating bee pollinators.

Fig. 3 *Tulista (Aloe) aristata* flowering happily outdoors in a London suburb.

Fig. 4. *Tulista* "tree".

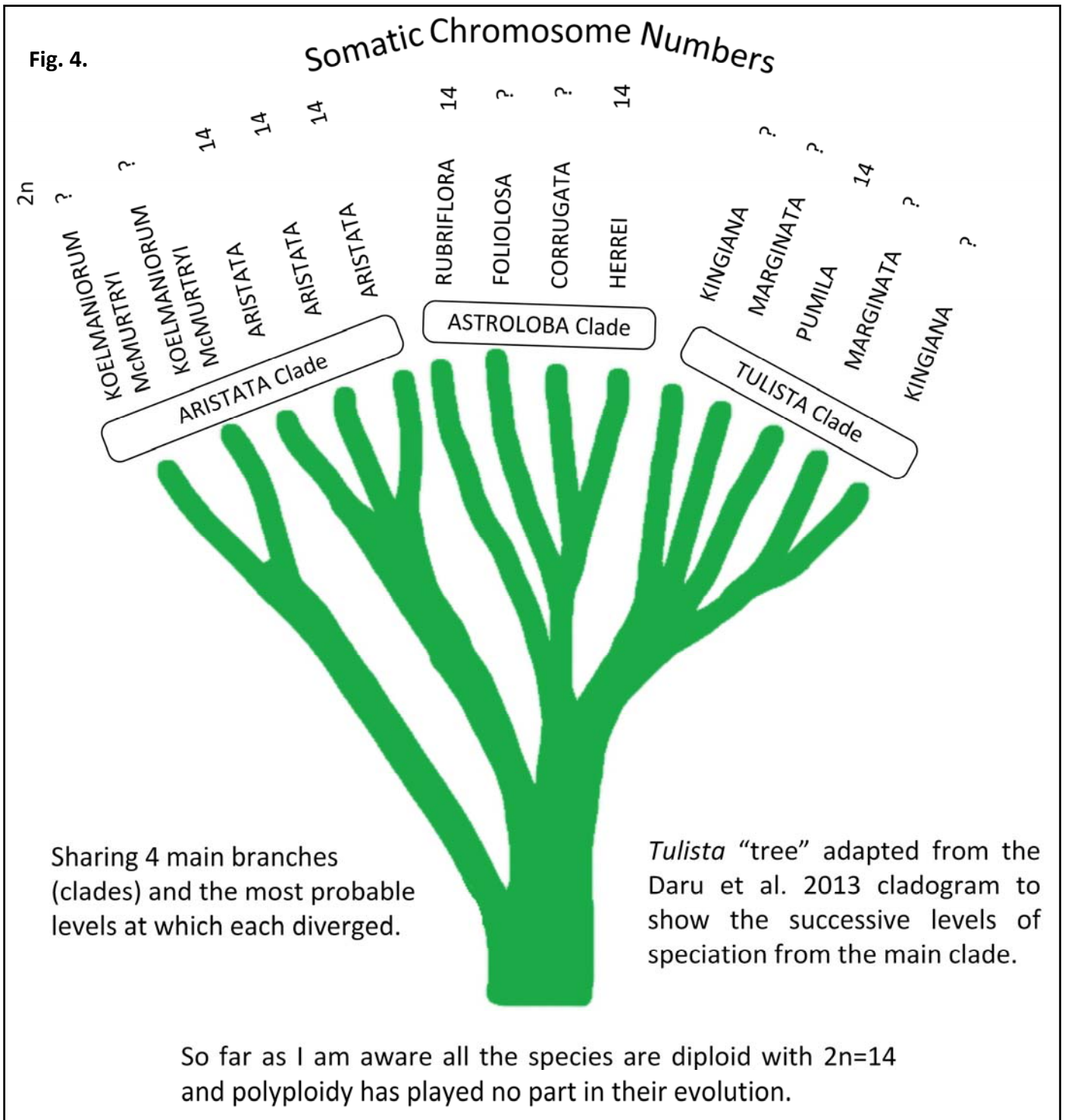
Figs. 5-12 Some species of *Tulista* (alias *Aloe/Apicra/Astroloba/Haworthia*) figured in Curtis Botanical

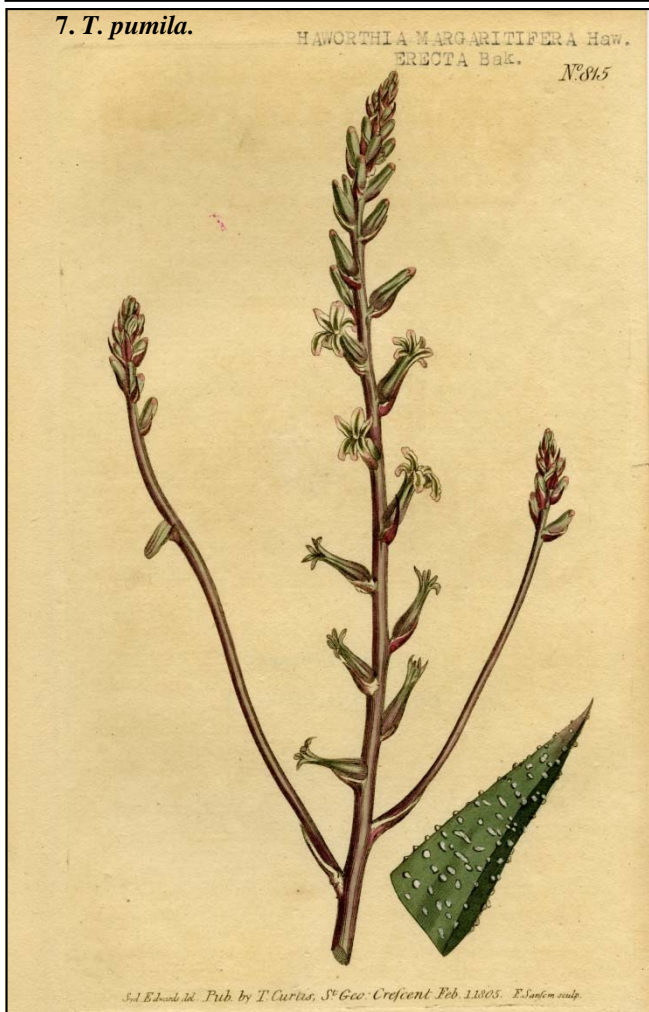
Magazine.

Fig. 13 A-D. *T. foliolosa*. E-I. *T. spiralis*. J. *T. X bicarinata*.

Fig. 14 A-C. *T. pumila*, D-H. *T. marginata*, I-N. *T. aristata*, O-V. *H. viscosa*, W-X. *T. rubriflora*. Illustrations from Salm-Dyck and Berger.

Front cover. *Tulista pumila*. Plant in cultivation showing the tubercles in close-up.





9. *T. spiralis*.

APIORA PENTAGONA Willd.
(ASTROLOBA SPIRALIS)

Nº1332



Edwards del. Pub. by T. Curtis, S^d Geo. Crescent Pl. 1216. F. Gouffier sculp.

10. *T. spiralis*.

APIORA SPIRALIS Bak.

Nº1455



Edwards del. Pub. by T. Curtis, Woburn Pl. 1811. F. Gouffier sculp.

11. *Haworthiopsis viscosa*.

HAWORTHIA VISCOSA Haw.

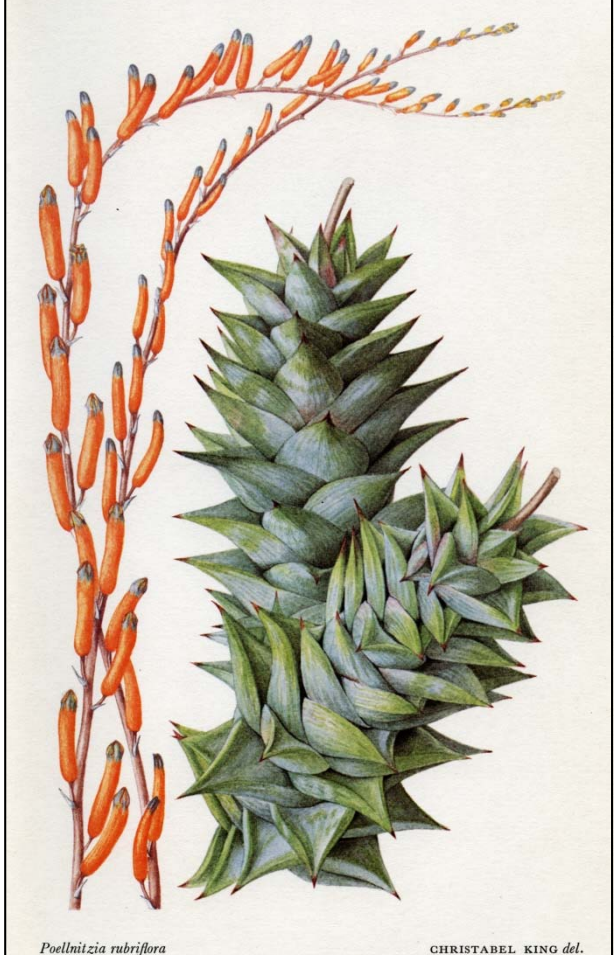
Nº814



Edwards del. Pub. by T. Curtis, S^d Geo. Crescent Pl. 1203. F. Gouffier sculp.

12. *T. (Poellnitzia)*

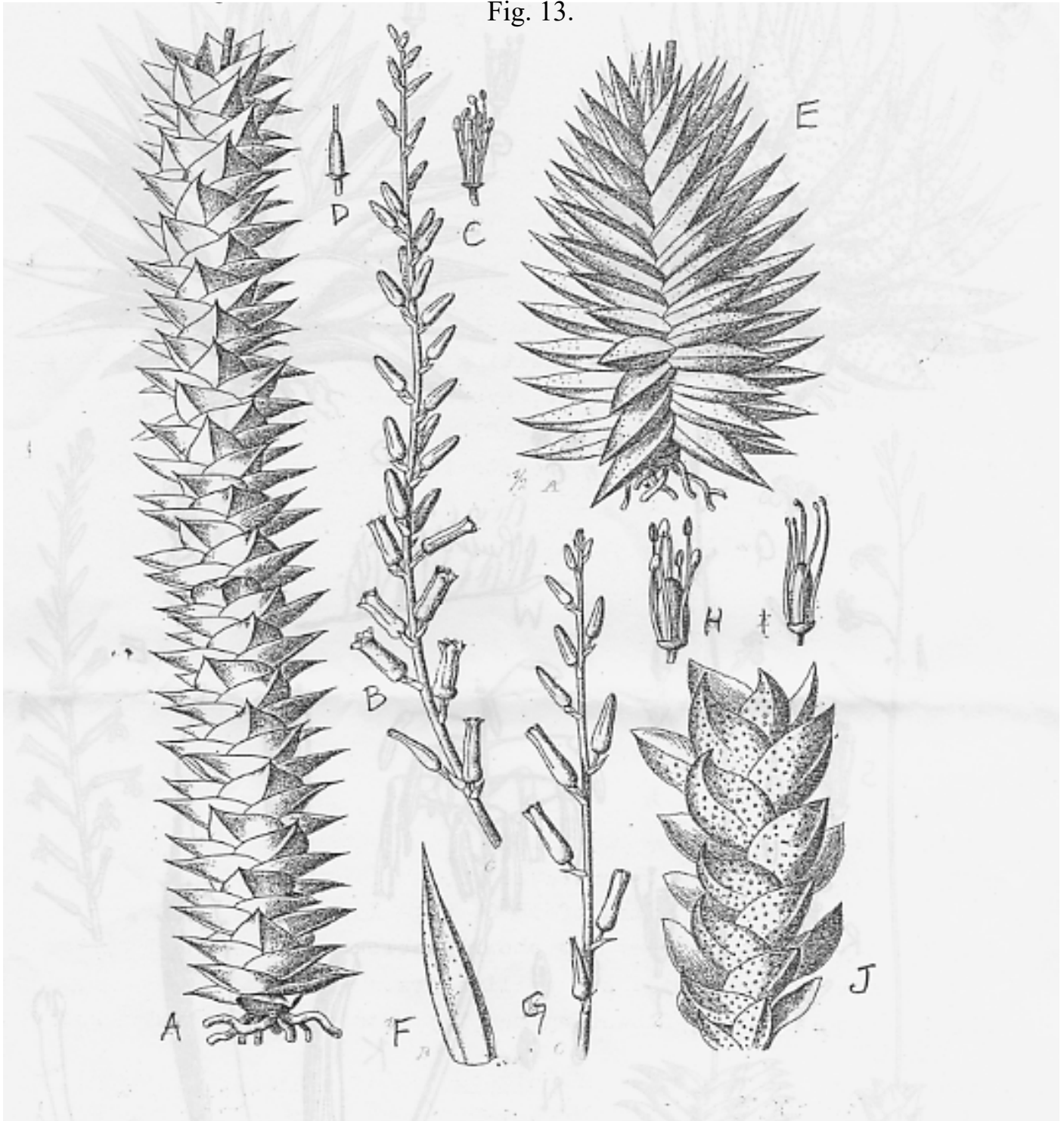
n.s. t.804



Poellnitzia rubriflora

CHRISTABEL KING del.

Fig. 13.



A-D. *T. foliolosa*. E-I. *T. spiralis*. J. *T. X bicarinata*.

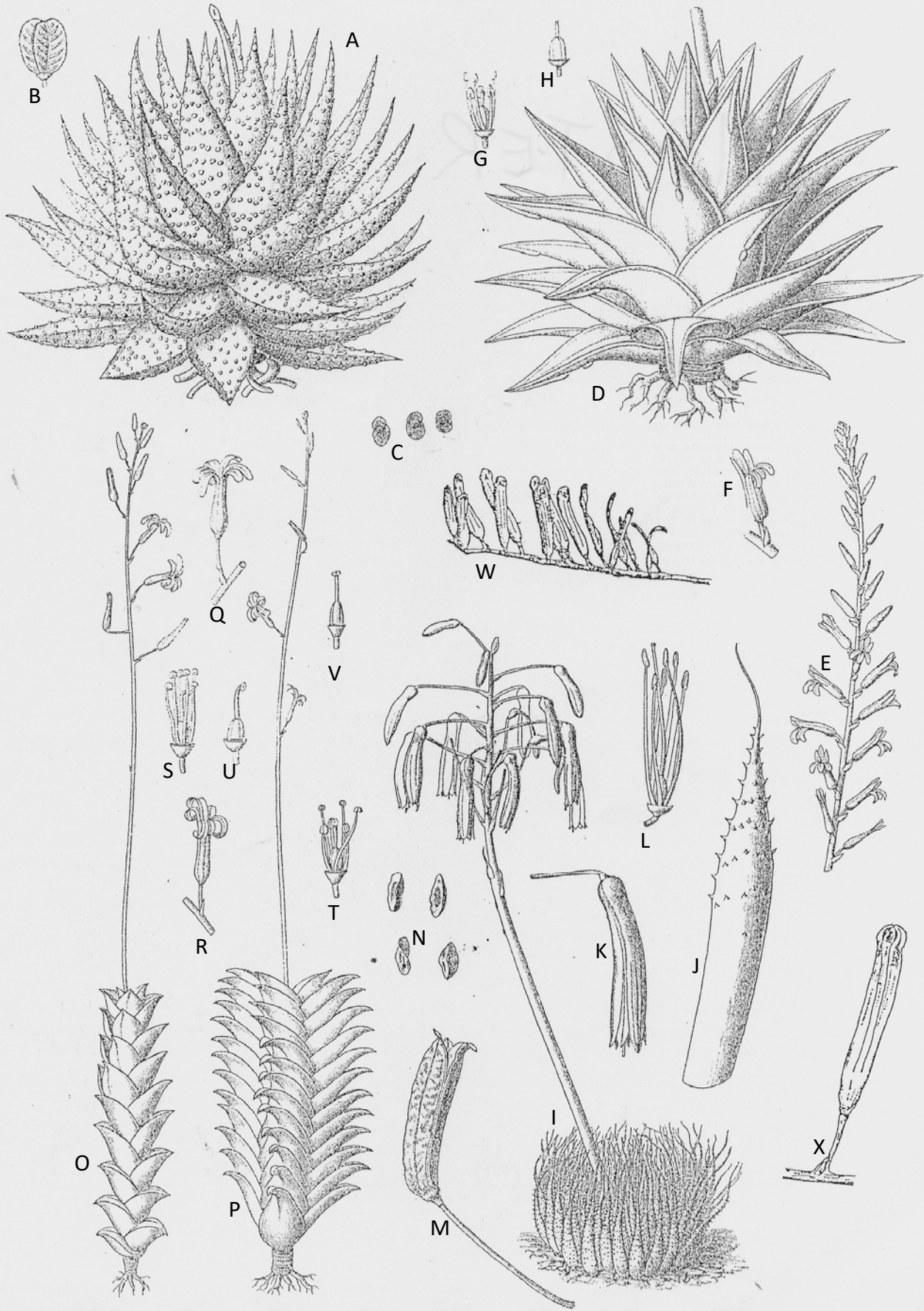
Tulistas showing leaves imbricate (*T. foliolosa* A-D) or in 5 straight or in spiralling series (*T. spiralis* E-I), but not in 3 series as in *Haworthiopsis*. Fig. J. *T. X bicarinata* is a natural hybrid of *T. corrugata* x *T. pumila*.

Salm-Dyck and Berger provided the illustrations.

Credits.

I wish to express my sincere appreciation for the scans and other work done by Pete Arthurs and Harry Mays in the preparation of this article.

Fig. 14.



A-C. *T. pumila*.

D-H. *T. marginata*.

I-N. *T. aristata*.

O-V. *H. viscosa*

W-X. *T. rubriflora*

Nomina Nova recorded for the Asphodelacea for 2011 in the Repertorium Plantarum Succulentarum LXII Published by the I.O.S. September 2012.

The Rep was compiled by:

U. Eggli, Sukkulanten-Sammlung Zürich, Mythenquai 88, CH-8002 Zürich, Switzerland.

R. Nyffeler, Institut für Systematische Botanik der Universität Zürich, Zollikerstrasse
107, CH-8008 Zürich, Switzerland.

Editors notes:

1. Authors sometimes first publish species names provisionally. These names are not, therefore, valid at the time of publication under the ICBN and are usually followed by n.n. (nomina nova) to indicate they are provisional and not validly published.
2. The Rep records only species names published under the provisions of the ICBN either as valid (**Bold type**) or invalid (*italics*). The International Code of Botanical Nomenclature (ICBN, now the ICN) article(s) under which the names are rejected are quoted. Authors may subsequently validate these names in later publications.
3. Readers will note that the Rep does not include Bruce Bayer's species names comprised of three Latin names e.g. *H. retusa 'nigra'*, as these are knowingly published outside the provisions of the "International Code of Nomenclature for". He takes exception to many of the provisions of the ICN and publishes his species names based in what he considers to be a more acceptable form. For Bruce's species please see his Haworthia Updates, all of which except No. 1 have been published by Alsterworthia International. These modify his classification in Haworthia Revisited wherein the species were published in accordance with the ICBN, but not necessarily so in later Updates.
4. With the cooperation of John Manning, SANBI, Bruce produced a list of haworthia names under the provisions of the ICN in Alsterworthia International 12(1)7-17 (March 2012) so that his classification would be eligible for consideration for inclusion in a revisions of the Illustrated Handbook of Succulents Plants. Amendments were published in Alsterworthia International 13(1)27.
5. As a result of DNA studies, Daru et al. (2013) have come up with a more thorough survey outlining eight recognisable groupings of species for the Asphodelaceae that involve the least rearranging of existing concepts. Please see pages 6-13 of this journal, Gordon Rowley's Generic Concepts in the Alooideae Part 4. Haworthiopsis and Tulista - Old Wine in new Bottles.
6. To complete the saga, members might like to know that Daru et al will be publishing their own updated classification for the Asphodelaceae based on their DNA studies. The earliest possible date of publication would appear to be the end of 2013, but it could be later.

ASPHODELACEAE

Aloe antoetrana J.-B. Castillon, CactusWorld 29(1): 53-54, ills. (pp. 51-53), 2011. Typus: *Castillon* 48 (TAN).

Aloe beankaensis J.-B. Castillon & J.-P. Castillon, Aloe Madagascar, Addendum No. 1, 13, ills., 2011. *Nom. inval.* (Art. 29.1, 36.1). [Name used as provisional name in figure caption only.]

Aloe benishangulana Sebsebe & Tesfaye, Kew Bull. 66(1): 113, fig. 1 (p. 114), 2011. Typus: *Hermann* 157 (ETH, K [photo]).

Aloe bernardii J.-P. Castillon, Cact.-Avent. Int. 89: 25-27, ills., 2011. Typus: *Castillon* 49 (TAN, P, TAN).

Aloe butiabana T. C. Cole & T. G. Forrest, Cact. Succ. J. (Los Angeles) 83(1): 28-33, ills., 2011. Typus:

Cole & Forrest 420 (MHU, EA).

Aloe ×buzairiensis Lodé, Cact.-Avent. Int. 92: 19, ills., 2011. Typus: *Lodé* 1230512 (Herb. Fundación Joel Lodé). [= *Aloe perryi* × *A. squarrosa*. First published invalidly (Art.36.1, 40.1) l.c. 85: 3-4, ills., 2010.]

Aloe erythrophylla ssp. **major** J.-B. Castillon, CactusWorld 29(1): 54-55, ills. (pp. 53-54), 2011. Typus: *Castillon* 50 (TAN).

Aloe ghibensis Sebsebe & Friis, Kew Bull. 66(1): 113-114, fig. 2 (p. 115), 2011. Typus: *Sebsebe & al.* 6764 (ETH, K).

Aloe karasbergensis ssp. **hunsbergensis** van Jaarsveld & Swanepoel, Aloe 48(3): 64-66, ills., 2011. Typus: *van Jaarsveld & Swanepoel* 21018 (WIND).

- Aloe knersvlaktensis** S. J. Marais, *Aloe* 47(4): 96-97, ill. (pp. 96-99), 2011. Typus: *Marais* s.n. (NBG). [Volume for 2010, received at ZSS Feb. 2011.]
- Aloe mottramiana** J.-B. Castillon, *Cactus-World* 29(4): 218-219, ill., 2011. Typus: *Castillon* 51 (TAN). [First used as provisional invalid (Art. 29.1, 36.1) name by J.-B. & J.-P. Castillon, *Aloe Madagascar*, Addendum No. 1: 12, ill., 2011.]
- Aloe sharoniae** N. R. Crouch & G. F. Smith, *Bradleya* 29: 116, figs. 1-5 (pp. 117-118), 2011. Typus: *Harrison* 980 (PRE). [*Nom. nov. pro Aloe cooperi* ssp. *pulchra* Glen & D. S. Hardy 1987.]
- Aloe spinitriaggregata** J.-B. Castillon, *Cact.-Avent.* Int. 90: 2-5, ill., 2011. Typus: *Castillon* 47 (TAN, P).
- Aloe springatei-neumannii** L. E. Newton, *Bradleya* 29: 58, figs. 1-2 (p. 59), 2011. Typus: *Springate* 99.008A (EA).
- Aloe tegetiformis** L. E. Newton, *Bradleya* 29: 60, figs. 3-5 (p. 59), 2011. Typus: *Powys* 1259 (EA).
- Aloe tongaensis** van Jaarsveld, *Aloe* 47(3): 71, ill. (pp. 64-65, 71), 2011. Typus: *van Jaarsveld & Powrie* 12202 (PRE). [Dated Dec. 2010, received at ZSS Feb. 2011.]
- Aloe wanalensis** T. C. Cole & T. G. Forrest, *Cact. Succ. J.* (Los Angeles) 83(1): 34-37, ill., 2011. Typus: *Cole & Forrest* 440 (MHU, EA).
- Aloe welmelensis** Sebsebe & Nordal, *Kew Bull.* 60(1): 117, 120, fig. 4 (p. 119), 2011. Typus: *Sebsebe & al.* 6655 (ETH, K).
- Aloe weloensis** Sebsebe, *Kew Bull.* 60(1): 117, fig. 3 (p. 118), 2011. Typus: *Sebsebe & al.* 6275 (ETH).
- Gasteria croucheri** ssp. **pondoensis** N. R. Crouch & al., *Bothalia* 41(1): 183-184, ill., 2011. Typus: *Crouch & Styles* 1149 (NH).
- Haworthia groenewaldii** Breuer, *Alsterworthia Int.* 11(2): 15-20, ill., (3): 4 [erratum], 2011. Typus: *Groenewald* 1 (NBG).
- Haworthia splendens** var. **hansii** M. Hayashi, *Haworthia Study* 24: 3, ill., 2011. Typus: *Hayashi* 09-221 (TI). [Dated Dec. 2010, received at ZSS Feb. 2011.]
- Haworthia splendens** var. **ingoi** M. Hayashi, *Haworthia Study* 24: 3, ill., 2011. Typus: *Hayashi* 03-245 (TI). [Dated Dec. 2010, received at ZSS Feb. 2011.]
- Haworthia splendens** var. **masai** M. Hayashi, *Haworthia Study* 24: 3, ill., 2011. Typus: *Marx* 447 (TI). [Dated Dec. 2010, received at ZSS Feb. 2011.]
- Haworthia truterorum** Breuer & Marx, *Aloe* 48(3): 54-57, ill., 2011. Typus: *Marx* 676 (GRA). [Sphalm. 'truterorum'.]

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Volume 2 - Haworthia

REPORT 2 - HAWORTHIA



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Volume 2 - Haworthia

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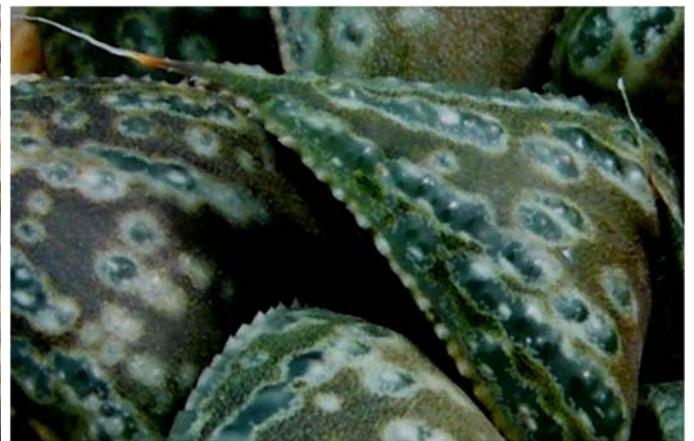
Haworthia 'Bird's Tail' Francois Hoes.

Description. Alsterworthia International 9(1)4.

Parentage. *Haworthia cooperi* v. *venusta* x *Haworthia truncata* 'Lime Green'.

Comments. Leaves slightly twisted, lanceolate, ascending, each ending in a sharp point, margins and keels with white teeth; colour green with lengthwise windows of white stripes of varying length and width. It remains green throughout the year. Rosette about 5 cm diameter. Non-offsetting. It dislikes too much water.

Propagation. Leaf cuttings.



Haworthia 'Black Knight' Gerhard Marx.

Description. Alsterworthia International 9(3)5.

Parentage. *H. marumiana* var. *dimorpha* x *H. splendens*.

Description. Rosette compact. Leaves dark blackish-green, pimples in more or less longitudinal rows in the short retuse leaf-ends dark blackish-green in the centre surrounded by a ring of light green, the leaf ends terminate in a spine. Marginal spines short. Diameter of plant illustrated is 7.5cm.

Propagation. Offsets and leaf cuttings.

Haworthia 'Black Mask' Tsuruoka

Description. Haworthia Study 14:15.

Parentage. *Haworthia springbokvlakensis* x ?

Comments. Rosette 2cm diameter. Leaves light green at the base, blackish brown above. Large, silver windows obscure the retuse leaf ends except for the blackish-brown, longitudinal lines.

Propagation. Offsets and leaf cuttings.



Haworthia 'Pearl of Dew' J.A. Audissou

Description. Alsterworthia International 6(3)22.

Parentage. *Haworthia retusa* fa. *geraldii* x *H. cymbiformis* var. *reddii* JDV 92-43.

Comments Rosette freely offsetting. Leaves light green with dark-green windows in the form of interrupted, longitudinal lines of variable width and length on the retuse leaf ends. Each leaf terminates in a prominent recurved spine. The leaves are rounded and highly turgid. The formation of the dark green windows suggested the cultivar name.

Propagation. Offsets.



Haworthia picta (Dairi Group) 'Akagitsune'

Description. Haworthia Study 11:16 as *H. picta* 'Red Fox', Haworthia Study 20:8 *Haworthia picta* 'Akagitsune'. Akagitsune = Red Fox. The Japanese name has priority and it therefore the established name.

Parentage. Bred in Japan by Mr. Tsukahara *Haworthia (picta* v.) *tricolour* x ? If a hybrid *picta* will have to be removed from the name.

Comments. Rosette picta-like. Leaves dark green, retuse ends studded with large, white flecks grouped into longitudinal rows separated by prominent dark green stripes. The retuse ends are diffused reddish .



Haworthia picta 'Daisekkei' Kawahigashi

Description. Haworthia Study 6:45 referred to as *Haworthia picta* 'Giant Form', HS 20:6 *H. picta* 'Daisekkei' Kawahigashi.

Parentage. A selection of the species.

Comments. An extra large form with dark brownish-green leaves. Retuse leaf ends are covered with dense white spots separated by narrow, dark-green lines. Bags of white spots droop over the lower edge of the retuse end. Daisekkei = Large snow valley.

Propagation. Offsets and leaf cuttings.



The Cactician

A miscellany of topics on the subject of Succulent plants.

Authored and edited by Roy Mottram.

Taxonomy, Botanical History, Databases &c.

Roy Mottram - roy@whitestn.demon.co.uk

A new online serial publication, named The Cactician, ISSN 2052-952X, has been created by Roy Mottram. It is designed to give him the flexibility to publish articles and data quickly by taking full control of all stages of production. The emphasis is on the accuracy of the texts and the quality of the illustrations. Booth cacti and other succulents are embraced.

The subject of Cactician 1 was *Aloe perfoliata* L., the type species of the genus *Aloe*, which attempts to resolve the correct application of the name. The subject of the second was *Desmidorchis retrospiciens* Ehrenb.

As *Aloe perfoliata* is no doubt of interest to many

members of Alsterworthia International the abridged article is below with the kind permission of Roy.

To view the Cactician go to: http://crassulaceae.ch/download.php?file_id=10673&download=true

If you send your e-mail address to Roy he will notify you when each new version of The Cactician is published. You can also contact Roy at the same address if you experience any difficulty with the web site.

Typification and application of the name *Aloe perfoliata* L.

Originally published in The Cactician. No. 1.

Summary

Aloe perfoliata L. was a cornerstone of the treatment of Linnaeus's genus *Aloe*, including all the medical, spotted, and other stemmed aloes. In spite of this importance and priority it has not previously been applied to any known species until the year 2000.

A full history of the name and its application is presented here.

Aloe perfoliata L. is confirmed as the type species of the genus *Aloe* L., and is considered to be the correct name for plants hitherto known as *Aloe microstigma* Salm-Dyck.

Aloe picta Thunb. is lectotypified here with the same type as *Aloe perfoliata* L. (p. 11), making it an obligate synonym.

Linnaeus (1753: 319-321) considered the perfoliate aloes of the genus *Aloe* to comprise a single species, *Aloe perfoliata*, with 16 varieties. Two of these were given varietal names, namely *A. perfoliata* var. *humilis* and *A. perfoliata* var. *vera*, while 14 others remained unnamed.

In his usual way, Linnaeus did not indicate which of the 16 varieties were to be considered typical, so it fell to later authors to make such a selection. The long history and lack of reliably identified specimens, together with illustrations of variable quality has been a problem for authors, and it was not until Glen & Hardy (2000: 100-101) made their selection that the name was returned to use. Under the rules of nomenclature, the name must of course be used for something, unless all of its 16 individual varieties, recognised today as species, are conserved over it, a wholly impractical solution. Also rejecting the name would have similar

consequences for any species or variety that has the same type as *A. perfoliata* L. That would include *A. saponaria* (Aiton) Haw. (Art. 56.1), a name consistently misapplied to *A. maculata* All.

Historically, the earliest aloes to reach Europe were gathered towards the end of the 17th C. by a number of collectors, and as far as aloes are concerned perhaps the most important of these was Hendrik Bernard Oldenland, superintendent of the garden of the East India Company in Cape Town. He had botanical training and preserved some specimens, but he is important in the present context having supplied a number of *Aloe* species in the form of seeds to Jan and Caspar Commelijn at Leiden in the Netherlands. These were raised in the Leiden garden and illustrated at various stages of maturity in their various illustrated catalogues of the garden. Linnaeus used these illustrations extensively in the protologue of *Aloe perfoliata* to characterise his varieties.

Oldenland accompanied Isaac Schrijver in an expedition of 4 Jan - 10 Apr 1689 (Strelitzia 26: 320). The route for this expedition is shown by Reynolds (1950: 31), and it penetrated the Western Cape to just beyond the present-day border with the Eastern Cape. Oldenland gave his gatherings phrase names, and these were adopted with little or no change by the Commelijns. Lists of names of plants collected by Oldenland were published by Valentyn in 1726 and by Burman in 1736.

Reynolds (1950: 87, 89) drew attention to a specimen in the herbarium of the Linnean Society of London, LINN 442.1, making the assumption that it was type material, but without formally designating it as the lectotype of *Aloe perfoliata*. Other original material (illustrations) were cited in the Linnaean protologue, so

a definite designation is required. Moreover, since most specimens in the Linnaean herbarium were preserved after the first period 1727-1753, without evidence of a date of preservation, LINN 442.1 cannot be accepted as eligible original material. Indeed, it does not appear to be any of the elements accepted by Linnaeus as belonging to *A. perfoliata*. It is an inflorescence that most closely resembles that of *Aloe variegata*.

The German-born English botanist Dillenius was said to have been Linnaeus's favourite correspondent. Dillenius's great folio work on the plants of Sherrard's garden at Eltham was considered by Linnaeus to be a masterpiece of botany, so it is hardly surprising that the Dillenius illustrations were used as the basis for three of the taxa belonging to his *Aloe perfoliata*. These three illustrations from Hortus elthamensis (1732), together with their currently accepted names are:

1: 17-18, t.14, fig.15. *Aloe maculata* All.

1: 18-19, t.15, fig.16. *Aloe perfoliata* L. [= *Aloe microstigma* Salm-Dyck]

1: 21-22, t.17, fig.19. *Aloe mitriformis* Mill.

The earliest type designation for *Aloe perfoliata* was made by Scopoli (1783: 127-128), citing Dillenius's plate 15 (Fig. 1). The second edition (1786: 137-138) also carries the same information. Although Scopoli listed only this species for the genus *Aloe*, that did not constitute a type designation for the genus because Scopoli was only listing species for which there was a known medical application. The Glen & Hardy (2000: 100-101) choice of plate 17 from the same Dillenius work is thus superfluous. The only reason given by Glen & Hardy for their choice was that it agreed with the specific epithet in having prominently perfoliate leaves, but this is common to all aloes to varying degrees, es-

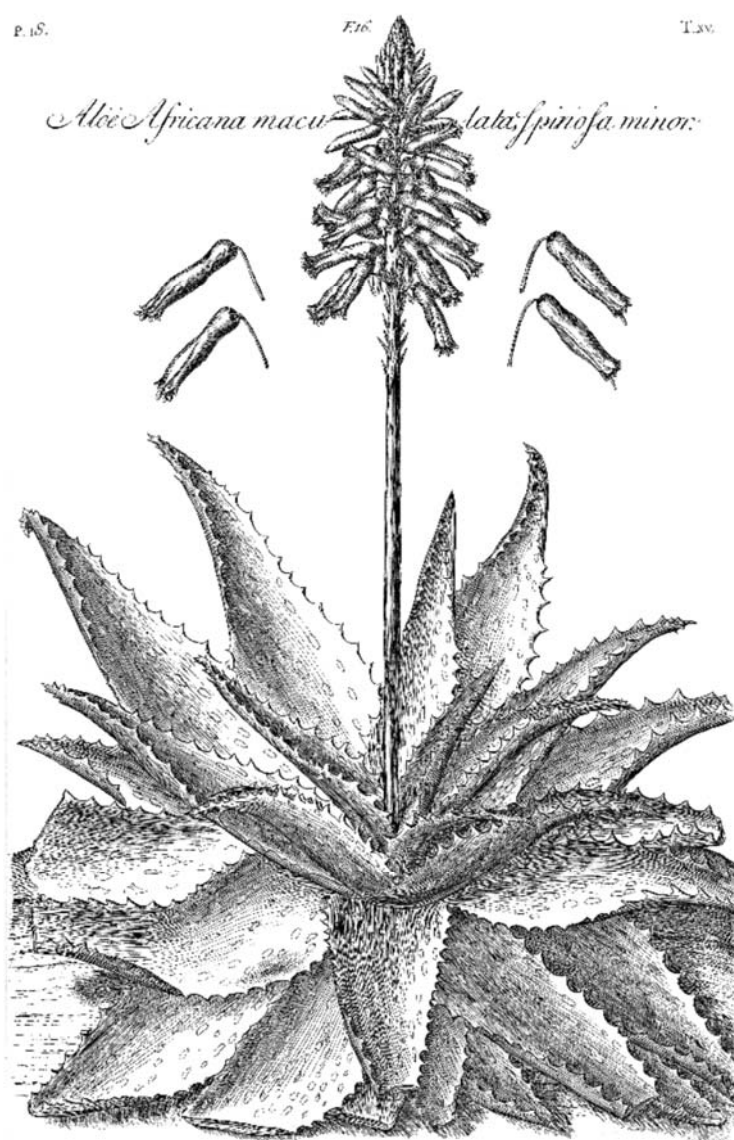


Fig. 1. The lectotype of *Aloe perfoliata* L. from the standard edition of Dillenius, *Hortus elthamensis* 1: 18-19, t.15, fig.16, representing what has hitherto been called *Aloe microstigma* Salm-Dyck.

Fig. 2. A later illustration of *Aloe perfoliata*. This was Ker Gawler's concept of *Aloe picta*, from *Curtis's Botanical Magazine* 32: t.1323. 1810, based on a plant that had been supplied to Haworth from Sherard's Eltham garden. It agrees well with the type illustration of *A. perfoliata*.

pecially to those known to Linnaeus.

The earliest type designation for the genus itself was that of Britton & Millspaugh (1920: 69), who chose *Aloe perfoliata* L. as stated by Index nominum genericorum.

There has been historical confusion between *Aloe perfoliata* L., known as the Great Soap Aloe to early 19th C botanists, and the other common spotted-leaved *Aloe*, *Aloe maculata* All., called the Common Soap Aloe, although they are readily distinguished. In *A. maculata* the spotting tends to be larger and often in transverse bands, while the spots of *A. perfoliata* may be smaller and randomly scattered over both leaf surfaces. The inflorescences are very different, being a simple truncated corymb in *A. maculata* and an elongated conical raceme in *A. perfoliata*. The flowers of *A. perfoliata* are mainly bicoloured with red buds turning yellow or green at anthesis, but in some places the buds and open flowers may be uniformly red or yellow. The typical form has uniformly dark red flowers with greenish yellow tipped petals.

In *Aloe perfoliata* the leaves are generally spotted equally on both sides. On the other hand, *Aloe maculata* is often described as “usually unspotted” on the lower side. However, they are equally spotted on both sides in Dillenius’s plate, and it seems to be relatively common for this to be the case.

Aloe perfoliata L., in the sense used here, is the same as, and the correct name for, *A. microstigma* Salm-Dyck (Fig. 3).

Description

Translated from the Latin, from Dillenius, J. J. (1732) *Aloe africana maculata spinosa minor* Dill., *Hortus elthamensis* 1: 18-19. The description consists mainly of the distinguishing characters from the species described in the previous plate, which depicted *Aloe maculata* All. “This species is very similar to the last [*A. maculata*], inasmuch that they are not easily distinguished unless closely examined. However, it has less stem development, if any,

certainly a shorter stem (I do not recollect it being more than a palm to a span of the fingers [3-9 inches, 8-24cm]) but no thicker, the leaves are certainly of equal length, but less thick & less strong, moderately broad at their base, narrower at the tip & with a long mucro, more concave, marked with fewer and less whitish spots, more on the lower side towards a thorny tip, the other thorns on the other hand are never harmful.

It is further differentiated in the flowers & peduncle, such as not being so short & entirely green, but the flowers are markedly shorter, thicker & more spreading, pale red in colour but of a lively hue, elegantly spread out in a thyse [cylindric, conical form] more tenuously attached by pedicels with a tongue-like scale at their base.

First opens its spritely flowers at one foot [in height],



Fig. 3. The holotype illustration of *Aloe microstigma* Salm-Dyck, from Salm-Dyck, *Monographia generum aloes et mesembrianthemii*: Fasc.6: t.11 [§26, fig.4]. 1854.

the spike fully developing to 2 feet, [peduncle] terete, compressed towards the base & never angular, of a glaucous pale green, the same colour as the leaves which are interspersed with white spots. The leaves are, however, disposed in a rosette, the smallest within, porrect at an oblique angle & remaining concave throughout, the middle [leaves] are more flattened & less porrect & more concave towards their extremity, the lowermost [leaves] lie in a horizontal plane, shortest in the middle, almost never concave towards the tip, below which is the bare stem (I have even sometimes observed it absent), like the previous species they are reflexing, although less so.

The outer floral segments are divided into three up to their middle at first, opening thereafter almost to the base, three inner segments are also at first divided continuously to the base, yet despite that they are fused to the back of the outer petals & create a monopetalous flower. Furthermore the three inner petals are sometimes broader than the outer & paler: both have green median lines towards their extremities. There are six stamens arising from near the oblong ovary at the base of the flower, opening successively in threes, bearing oblong sticky apices [anthers], slightly exserted beyond the floral tube.

Taxonomic summaries for *Aloe* L., *Aloe perfoliata* L. & *A. maculata* All.

Aloe L., *Species plantarum* 1: 319. (1 May) 1753; *Genera plantarum*, ed.5: 150. (Aug) 1754, but under the rules considered as simultaneously published with *Sp. Pl.* on 1 May 1753. Name adopted from Tournefort (1700 2: t.171, cited erroneously by Linnaeus as t.170). Tournefort's plate is mixed, mainly comprising the flowers and fruits of *Agave*, but there is one flower of *Aloe* in the strict sense. Tournefort's checklist of *Aloe* species has only two elements of *Aloe* s.s., namely those whose phrase names represent *Aloe vera* and *A. succotrina*.

T: Only the Tournefort plate was cited in the protologue, but that is mixed and its elements are unidentifiable.

LT: *Aloe perfoliata* L. Designated by Britton, N. L., & Millspaugh, C. F., *The Bahama flora*: 69. (26 Jun) 1920.

Homotypic infrageneric synonyms

Based on the same type as the genus *Aloe* L., the names listed below are all invalid (Art. 22.1), because they should bear the name of the genus unchanged in their appropriate rank. Salm-Dyck's names were inconsistently applied in that he circumscribed his names with different lists of included species in each of his revisions at various times.

Grandiflorae Haw. (pro sect. *Aloe* L.), New arrangement of the genus *Aloe*, *Trans. Linn. Soc. London* 7: 1, 14. 1804 nom. inval. (Art. 22.1). Includes the type of *Aloe* L. sect. *Aloe*. This was described on p.14, and given its rank on p.1.

Maculatae Haw. (pro unranked division of *Aloe* L.), *Synopsis plantarum succulentarum*: 81. 1812 nom. inval. (Art. 22.1). Includes the type of *Aloe* L.

Pictae Salm-Dyck (pro unranked division of *Aloe* L.), *Index plantarum succulentarum in horto dyckensi cultarum anno 1829*: 6. 1829 nom. nud.

Pictae Salm-Dyck (pro § 23 of *Aloe* L.) *Index plantarum succulentarum in horto dyckensi cultarum anno 1843*: 11. 1843 nom. nud.

It flowers well, like the preceding species, primarily in the months of September & October with us. Our figure is drawn to about half the scale of the actual plant, but the flowers depicted in the margin on either side are represented at natural size.

Aloë Africana caulescens, foliis spinosis, maculis ab utraque parte albicantibus obscurioribus, magis glaucis, quam praecedens Boerh. Ind. Alt. Part II p.130. n.20. is by chance the same as illustrated here, said to be an inhabitant of plains."

Eualoe Baker (pro subgen. *Aloe* L.), A synopsis of *Aloineae* and *Yuccoideae*. *J. Linn. Soc.* 18(108): 153. (Oct 15). 1880 nom. inval. (Art. 21.3, 22.1). Epithet incorrectly formed and includes the type of *Aloe* L. subgen. *Aloe*.

Maculatae Baker (pro unranked group of *Aloe* L.), *Liliaceae* VIII. *Aloe*, Linn, in Thistleton-Dyer, W. T., *Flora capensis* 6 (2): 303. 1896 nom. inval. (Art. 22.1). Includes the type of *Aloe* L.

Eualoe A.Berger (pro sect. *Aloe* L.), Über die systematische Gliederung der Gattung *Aloë*. In: Engler, A., *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 36: 46. 1905 nom. inval. (Art. 22.1). Epithet incorrectly formed and includes the type of *Aloe* L. subgen. *Aloe*.

Fruticosae A.Berger (pro subsect. *Aloe* L.), Über die systematische Gliederung der Gattung *Aloë*. In: Engler, A., *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 36: 47, 54-55, 65-66. 1905 nom. inval. (Art. 22.1). Includes the type of *Aloe* L. subsect. *Aloe*.

Magnae A.Berger (pro subsect. *Aloe* L.), *Liliaceae-Asphodelaceae-Aloineae*. In: Engler, A., *Das Pflanzenreich. Regni vegetabilis conspectus. Im Auftrage der Königl. preuss. Akademie der Wissenschaften* 4(33): 161. (8 May) 1908 nom. inval. (Art. 22.1). Includes the type of *Aloe* L. subsect. *Aloe*.

perfoliata

Aloe africana; caulescens; foliis spinosis; maculis ab utraque parte albicantibus, obscurioribus; magis glaucis quam praecedens Boerh., *Index alter plantarum quae in horto academico Lugduno-Batavo aluntur conscriptus ab Hermanno Boerhaave* 2: 130, nr.20. 1720. *T*: Africa, on plains. Donated by D. Beaumont. [cited in the synonymy of the following by Dillenius 1732: 19]

Aloe africana maculata spinosa minor Dill., *Hortus elthamensis* 1: 18-19, t.15, fig.16. 1732.

Aloe foliis caulinis dentatis amplexicaulibus vaginantibus L. var. η , *Hortus Cliffortianus*: 131. 1737.

Aloe foliis caulinis dentatis amplexicaulibus vaginantibus L. var. γ , *Hortus Upsaliensis*: 86. 1748.

Aloe perfoliata L. [var. μ], *Species plantarum* 1: 319-320. (1 May) 1753.

T: Africa, rocky places on plains.

LT (design. Scopoli 1783: 128): *Aloe africana maculata spinosa minor* Dillenius, *Hortus elthamensis* 1: t.15, fig.16. 1732.

Homotypic synonyms:

Aloe perfoliata var. *saponaria* Aiton, *Hortus Kewensis* 1: 467. 1789.

Aloe picta Thunb., *Dissertatio botanico-medica de Aloë, Gradu Doctoris Publico Examini Subjicit Andreas Hesselius, Diss. Acad. Upsaliae* 2: 6. (Jun) 1785. *T*: None. There are no specimens of *Aloe picta* in the Thunberg herbarium. The taxon was mixed, based on *A. perfoliata* var. θ , λ , μ , & ν , i.e. all the spotted aloes. The type of *A. perfoliata* Thunb. non L. was explicitly excluded and that name misapplied to *A. succotrina* All. and its allies. The actual type of *A. perfoliata* L. itself was, however, explicitly included, making *A. picta* Thunb. a synonym. *LT*(design. here): Dillenius, *Hortus elthamensis* 1: t.15, fig.16. 1732.

Aloe picta var. *minor* Willd., *Caroli a Linné Species Plantarum*, ed.5 2(1): 187. 1799.

Aloe saponaria (Aiton) Haw., New arrangement of the genus *Aloe*, *Trans. Linn. Soc. London* 7: 17. 1804.

Heterotypic synonyms:

Aloe microstigma Salm-Dyck, *Monographia generum aloes et mesembrianthemium*:

Fasc.6: t.11 [§26, fig.4]. 1854 (Jun). *T*: icon in loc. cit. (Fig. 5)
Aloe obscura Mill., *Gardeners Dictionary* ed.8: Aloe nr.6. 1768. *T*: None.

Aloe umbellata DC., *Plantarum historia succulentarum* 1: t.98. 1802. *T*: icon in loc. cit.

maculata

Aloe africana caulescens, foliis spinosis maculis ab utraque parte albicantibus notatis J.Commelijn, *Horti medici Amstelodamensis rariorum tam orientalis quam occidentalis Indiae aliarumque peregrinarum plantarum* 2: 9, t.5. 1701.

Aloe africana, caulescens, foliis caulem amplectentibus, floribus aurentiacis. Dom. Gul Sherrard, in Bradley, *Historia plantarum succulentarum* Dec.4: 11, t.33. 1727.

Aloe africana maculata spinosa major Dillenius, *Hortus elthamensis* 1: 17-18, t.14, fig.15. 1732. (Fig. 6)

Aloe perfoliata L. var. λ , *Species plantarum* 1: 319-320. (1 May) 1753.

Aloe maculata All., *Auctarium ad synopsis methodicam stirpium horti regii Taurinensis*: 13. 1773.

T: Africa.

LT (design. Guglielmone & al 2009: 178): *Aloe africana* caulescens, foliis spinosis maculis ab utraque parte albicantibus notatis J.Commelijn, *Horti medici Amstelodamensis rariorum tam orientalis quam occidentalis Indiae aliarumque peregrinarum plantarum* 2: 9, t.5. 1701. South Africa, W Cape; Jan-Apr 1689, *Hendrik Bernard Oldenland* 3 [*Maria Moninckx Atlas* 3: t.6 (1698-1704)] [cited in synonymy by Linnaeus (1748: 86) as *A. perfoliata* var. γ , but later segregated as *A. perfoliata* var. θ (1753: 320).

ET (design. Guglielmone & al 2009: 178): South Africa, Kwazulu-Natal, Pietermaritzburg, alongside the road between Bishopstowe & Hayfields, 18 Aug 2007, *Crouch* 1138 (NH).

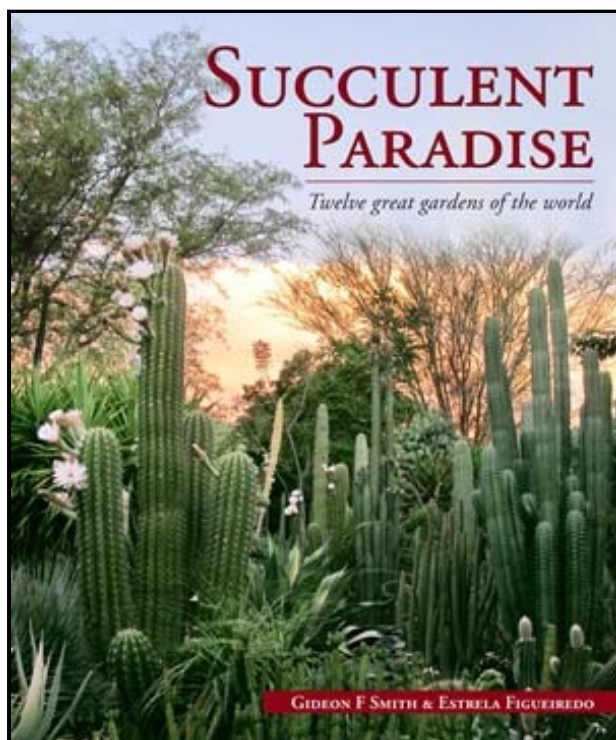
Homotypic synonym:

Aloe maculosa Lam., *Encyclopédie méthodique: botanique* 1: 87. 1783.

Heterotypic synonym:

Aloe picta var. *major* Willd., *Caroli a Linné Species Plantarum*, ed.5 2(1): 186-187. 1799. *T*: None.

For further information please see the original article at <http://www.crassulaceae.ch/index.php?TPL=10398>



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Gideon F Smith & Dr Estrela Figueirido Title: *Succulent Paradise*. ISBN: 9781431700905. Format: Softcover. Release Date: August 2013. Imprint: Lifestyle. Pages: 192. Price: R250.00.

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내 마음에

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Words sometimes do not do justice when describing plants, photographs are more informative. A

selection of the plants Nae Mame has on offer follow. They may be of interest to you.

You will note that some of the cultivar names are nursery names which do not comply with the ICNCP, but this is so with many nurseries. For further information please go to their web site <http://www.Haworthia.co.kr>, but if you have any difficulties or further enquires you can e-mail them.



Haworthia maughanii "Z-1"



Haworthia truncata variegated (red form)



Haworthia obtusa variegated.



Haworthia 'Chocolate'



Haworthia (*kegani* x *kohirzatou*) "Yukiusagi"



Haworthia splendens 'Black Splendens'



Haworthia splendens hybrid "Kuro Tori"



Haworthia maughanii hybrid variegated



Haworthia wimii hybrid (Iceage seeding)



"*Haworthia obtusa* x *venusta*" "Dark Green"



Haworthia pygmaea hybrid
 "Tiger pygmaea variegated"



Haworthia truncata hybrid "Chocosen"



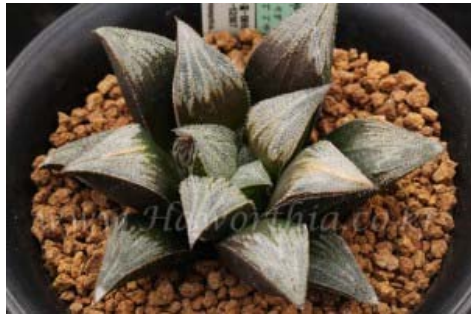
Haworthia wimii hybrid "Ohyumedono"



Haworthia wimii hybrid "Iceage Seedling"



H. wimii hybrid "Byakuyajou"



Haworthia wimii hybrid "Ohyumedono"



Haworthia wimii x *splendens* "Yukigeshiki"



H. maughanii hybrid variegata



Haworthia "Hyoujyou no Mai"



Haworthia "Taiyou"



Haworthia picta "Whiste Marking"



Haworthia picta "Azarashi"



Haworthia splendens Hybrid "Black Diamond"



Haworthia atrofusca Hybrid Blue atrofusca



Haworthia maughanii variegated



Haworthia comptoniana variegated



Haworthia viscosa "Shoutengu"

The foregoing is a presentation of a small selection of individual plants, but what about the glasshouses, the stock plants and the propagation areas? A brief indication of all this is given in the following three pages of photographs.

For more information visit Nae Mame's web site <http://www.Haworthia.co.kr>





