

# The Perils of Commodity Cacti

The following piece is part of a collection of writings published on the [Practical Small Cacti Malaysia site](#).



Fresh stock for sale at a nursery in Klang Valley, Malaysia. (March 2017)

Disclaimer: Pictures of plants for sale are for illustration purposes only. They are not an endorsement of any specific company or supplier. Also, I will always endeavour to provide clear and reasonable arguments for any criticisms I make – I don't do mindless cheerleading for anyone.

## Perfection at the Point of Sale

You know what your brain is telling you: buy, Buy, BUY!

Many folks in Klang Valley, Malaysia get their first exposure to cacti like this: You come across them in supermarkets or in plant nurseries. The burst of bright neon colours immediately catches your eye. The specimens are also attractive and cheap. Newly-arrived pots of C&S<sup>1</sup> are often really amazing specimens in perfect condition. All you need to do is to open your wallet, and they are yours.

It's perfection at the point of sale. Everything is geared towards pushing your mental buttons and persuading you to part with your money. It's not a trick – the quality is genuine. A student of business might say, this is horticultural retailing nirvana.

---

<sup>1</sup> A common short form of "cacti and succulents." Check Wikipedia if you don't know the difference. My primary focus is cacti. Most of the time, I will be discussing cacti, but succulents will pop up here and there.



A snapshot of yesteryear. Plants for sale at Cactus Point in Cameron Highlands, Malaysia. (April 2002)

## Perfection in the Supply Chain, and...

It's also the culmination of many decades of improvements in the mass production of cacti and its distribution all over the world. For example, a lot of *Kalanchoe* hybrids these days have brighter flower colours and are small, so that they can be placed in supermarkets as impulse purchases.

It's a finely-tuned supply chain whose volume is definitely in the tens of millions of plants<sup>2</sup> these days. It's like ordering a fast food meal – you can almost be assured that they will be of a certain size, type and quality.

Did you notice the specimens in 2 inch pots are always of a certain size? Do you recognize the types of plants sold after a while? This is the result of mass production: I think purchasers choose to order a regular mix of species from wholesalers all the time, a safe decision. This is why one can call these *commodity cacti*, after all, you can buy them like you buy detergent or anything else in a supermarket or hypermarket. The plants have become a standardized product.

Now, what have we left out? Ah, the **consumer** who bought one or more plants.

---

<sup>2</sup> It's hard to find a definitive number, but the following web page is very informative:  
<https://www.cactusexpert.org/cactus-plants/usa.html>



Did you notice my careful use of ‘fresh’ and ‘newly-arrived’ on the first page? Here are some older stock at a hypermarket. A few *Rebutia* specimens have dark patches (orange arrows) – these are dying or dead. At least four other plants (blue arrows) are obviously etiolated – stretched out due to insufficient light. (February 2020)

Let’s see: The horticultural people who grew the millions of plants are experts who have untold person-years of hands-on experience. The logistics people are experts who have optimized the supply chain so that goods can be shipped all over the world at low cost. The retailers who sell the plants are experts in marketing and consumer behaviour. And what about the consumer who had just bought a plant? Well, living in a tropical country like Malaysia, most of us didn’t know a thing about these plants when we first bought one. Everyone in the chain can be fairly called experts at what they do, and what they do is highly optimized to the point of near-perfection – *except for the consumer at the end of the chain.*

So it’s some kind of perfection up to, and including, the point of sale. Beyond that, the experts are no longer in charge. Actually, the horticultural experts are definitely in charge only during the growing phase of the plants, that’s why a stock of newly-arrived cacti look so perfect and older stock, less so. This is how you end up with the bunch of plants in the picture above – it’s not an uncommon sight to see such deteriorating stock in hypermarkets in Klang Valley, Malaysia.

Modern retailing aims to satisfy all your desires: You can buy just about anything with the minimum of fuss. All you need to do is pay up. Customers are well taken care of. It is a sort of ‘perfection’ that consumers have come to rely on. After all, the retail market is an industry with multi-trillion USD global revenue, and it has brought you and me affordable high-quality C&S plants that were enjoyed mainly by European aristocrats in their greenhouses once upon a time.

Unfortunately, this has resulted in the plants turning into products to fit in the massive global supply chain. In their parlance, a cactus plant is just an SKU (stock-keeping unit) now. It's not their fault; the system must run efficiently in order to bring you cheap products.

Perhaps this is a kind of endgame in consumerism. A large number of highly intelligent people have made continuous improvements to the point where you and I can buy great products at low prices. Everything is so convenient – perhaps too convenient. It's like the smartphone everyone has now, except that cactus plants are living things and plenty of us consumers in tropical countries lack the expertise to grow exotic plants well and so most commodity cacti will grow weak and die in the hands of inexperienced owners.

One can think of it as a gross mismatch. It's like getting a supercar with a manual transmission and promptly crashing it because you tapped the accelerator pedal a little too hard. The problem is not with the supercar or its manufacturer. We just need to be better prepared in order to get the most out of the supercar or the cactus plant. With supercars, we can sign up for expert driving courses that are safely conducted on race tracks. But if you ask nursery staff about the cactus plant that you are buying, at most you will get very generic suggestions. The hypermarket staff would prefer not to say anything. Generally, you are on your own<sup>3</sup>.

Let's take a closer look at commodity cacti.



Another snapshot of yesteryear. A holding area for incoming stock, behind the retail space at one of the many C&S plant nurseries in Cameron Highlands, Malaysia. (April 2002)

---

3 Of course, in many countries one can go to a specialist nursery or some kind of botanical garden where one can see many small and large specimens and talk to experts. That's kinda in short supply here in Malaysia.



Spotted in February 2018. Not even out of the box yet! The upper box still has newspapers for padding. Note the mixture of plant types and the *Parodia* with the yellow flower. The pots sit on a thin plastic tray.

## A Closer Look at Commodity Cacti

Now, it's not my style to interrogate plant sellers like they owe me a discussion about how their business is run, so the following was pieced together from bits and pieces of information and by assuming that most people follow the rules that are supposed to be followed. I don't have any first-hand or inside information on the inner workings of the supply chain. I'm also not going to accept any volunteered information on this topic now or in the future – let them keep their trade secrets.

Look at the above picture of incoming stock. Since international phytosanitary laws generally require plants to be exported or imported with their roots bare, I suspect the boxes are really from a local distributor who imported the stock and prepared the plants to be ready for sale. Phytosanitary laws are needed to protect native plants and economically-important plants from threats like pests and viruses – an over-simplification, but I'm sure you get the idea<sup>4</sup>.

You've probably seen the same plants in hypermarkets or at plant nurseries, so these are commodity cacti and they are in new soil. The soil is usually okay too: airy and well-drained with some added perlite and perhaps a sprinkle of Osmocote-like slow release fertilizer. The supply chain has moved the plants from the grower to the point-of-sale and has prepared the plants for the consumer.

---

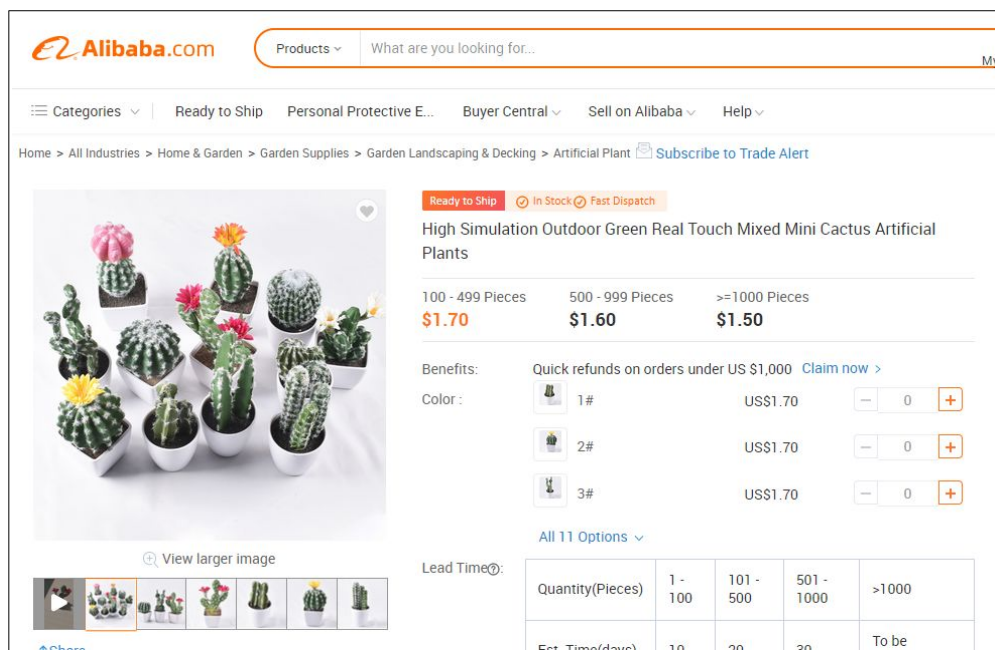
<sup>4</sup> In Malaysia, I think Bahagian Biosekuriti Tumbuhan at Wisma Tani is in charge of this (as of early 2019). I went there ages ago and I think they are used to people in the agriculture sector, not individual urban gardeners.

Such trays of commodity cacti can be found at plant nurseries and hypermarkets. A tray of pots is easier to handle – nobody arranges the pots on a table anymore. At some hypermarkets, such plants are marked as a *consignment*, meaning the hypermarket has a deal with a supplier to sell the plants on behalf of the supplier. Both parties share the money from sales. Plant nurseries in Malaysia may have a similar arrangement with the suppliers. In this way, the retailers minimize risk.

This is probably why they are not concerned about dead or dying plants: Such losses have already been ‘priced in’ by the supplier in their business model. The plants have become a bunch of SKUs and are managed as such. It’s modern retailing, and the plants are commodity products.

It’s a scheme to sell cheap mass-market plants, so one cannot really complain about what they do. The one **really bad thing** the suppliers are guilty of is cacti with glued-on straw flowers or plastic flowers. Do not buy specimens with fake flowers glued (or perhaps, stabbed) on the plants! Let them lose money on those abominations! If you bought one either you were cheated because you didn’t look closely enough or they avoided telling you what it really was, or you were just cheating yourself, you took a short cut and paid money for a fake of something you wish you had. You’ll probably be bored with it after a few weeks. You’re not really buying plants – you are buying fashionable trinkets. If you want cacti with flowers the easy way, buy plastic plants instead. Or you can always browse the Internet to see pictures of cacti with beautiful flowers.

It’s unclear who started this ugly trend. A lot of cacti enthusiasts cringe at this kind of stuff. The fakery is about low-brow businessmen making money. They are just very hungry for what is in your wallet, and they will try every trick to make you buy unnecessary things. The ravenous horde of marketing and retailing people buying into this game damages their reputation. Thankfully, cacti with fake flowers are seldom found on display these days. If you searched Alibaba after 2020, the current gimmick is plastic cacti (see the screenshot below). So you see, it was never about gardening.



From Alibaba. The businessman’s rationale: Great for retailers (no more dead plants) and great for people with no time! (Low quality screenshot, 2022-05-13.)



I bought some *Gymnocalycium* in October 2021 so that I can experiment with fresh plant material. I chose the cleanest-looking pot holding several small plants, and the plants still needed cleaning. Pictured in this closeup are spider mite webbing (blue arrows) and a small scale insect (orange arrow). The bugs were just getting started...

It is at the retailing side that this well-oiled machinery start to run into problems. A common joke among cacti enthusiasts worldwide and on the Internet is that cactus plants for sale sometimes<sup>5</sup> come with scale insects for free. Remember, the plants are at their best when they have just arrived. It usually goes downhill from there. This is prevalent among hypermarkets or general plant nurseries. *Observe old or unsold stock carefully.* It pays to be observant, if you want to be a serious grower.

Also, if you have perused commodity cacti where they are sold, you might have noticed that most outfits keep the soil bone-dry. That is, the trays of plants look as if they have never been watered. If they selling at a good pace, some might argue that this is acceptable. Perhaps it's standard business practice for plant consignments. But after a while, the plants are going to be stressed. Why? For example, that *Parodia* with the flower on page 5, *it's not a desert plant*<sup>6</sup>.

For many general nurseries, their skill set is really in *plant retail*, and not keeping plants alive for a long time or caring for them in the long term. Fresh plants that are not quickly sold can be exposed to pests and diseases that are sometimes endemic in plant nurseries that are poorly maintained. In this business it's not possible to operate like boutique outfits; the prices of mass-market garden plants cannot be too expensive, thus there is a minimum of hired manpower and plants do not get the best care. Scale insects is just one of many nasty things that you might get for free if you are not careful. Therefore, always inspect any plant you wish to buy carefully. Inspect regular houseplants as well, for they may harbour these insects too. We'll talk more about bugs later.

---

5 If you have ever been a victim of this, you'll want to use "always" instead. But new stock is usually okay.

6 If this *surprises* you, then you'd better read the rest of the stuff on this site.

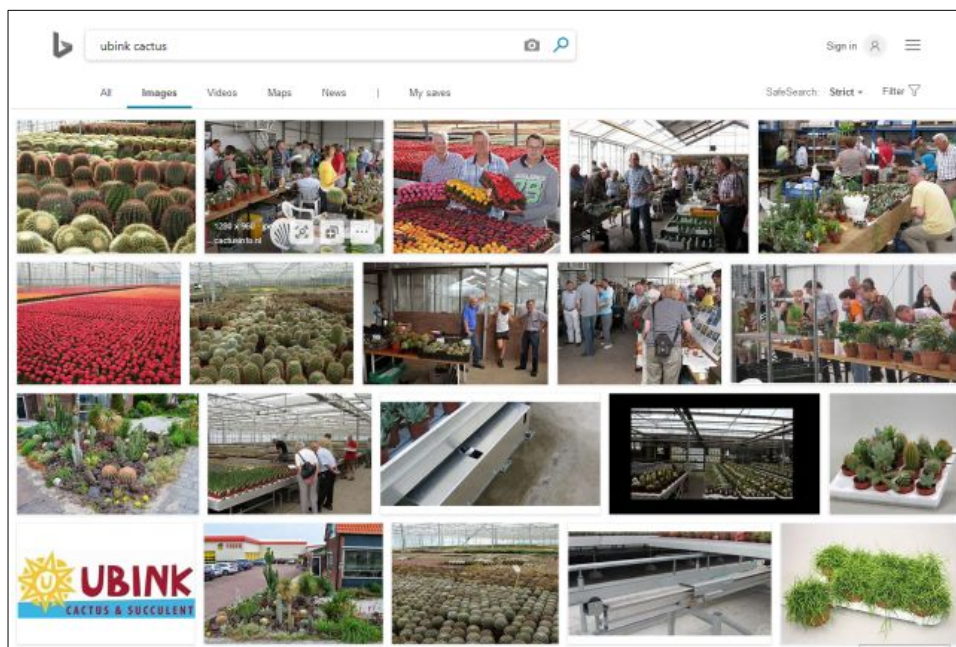
Outlets that specialize in C&S usually do a better job. Outlets that have large and small specimens and can care for the plants and maintain their quality would be the best place to buy plants. Unfortunately such outlets are uncommon or possibly non-existent in Malaysia. Well, you can try Cameron Highlands but I haven't been there in years<sup>7</sup>.

Commodity cacti is a low cost, high quality and highly uniform mass-produced product. It's always going to be better than an equivalent that is in limited production. That is why everyone is selling these imported plants.

## Modern Mass Production is Amazing

The largest producers rely on amazing large-scale operations to produce millions of pots of C&S each year. It's like a megafactory, but one that produces ready-for-sale plants as the end result.

Ubink Cactus & Succulent or Handelskwekerij Ubink BV or simply Ubink<sup>8</sup> is one of the top producers of cacti worldwide. It is a Dutch wholesale nursery with an international footprint. There are some must-see videos on their website, look under 'Bedrijfsfilm' or search Youtube. Where labour costs are high, technology and automation is how you grow millions of specimens for sale every year. The bulk of its production seems to be at Tenerife in the Canary Islands, probably in partnership with Canary Cactus<sup>9</sup>. An image or video search of 'Ubink cactus' or 'Canary cactus' is highly recommended.



Searching for stuff can take a lot of time, so in the following we will guide you quickly through a few items of interest. This image search result is a great summary of Ubink's very modern production facility. (Low quality screenshot, 2019-07-27.)

7 Traffic during the holiday season is murder. Some folks think they can open up and develop the area in perpetuity without destroying the local climate. Gee guys, at what point will you set limits?

8 <http://ubink.nl/nl>

9 <http://englisch.canary-cactus.com/>

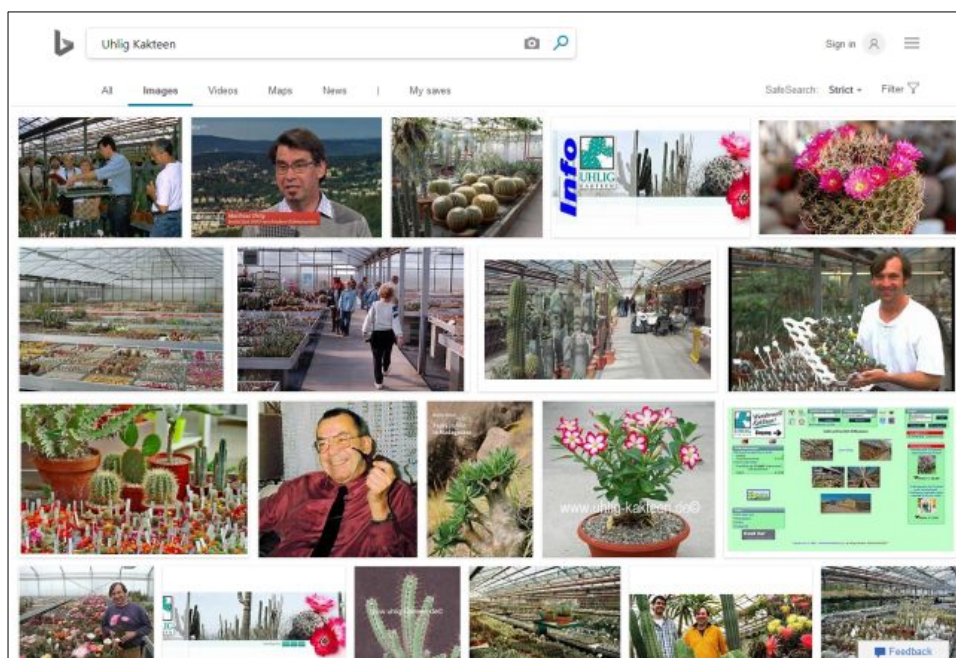


Unfortunately Ubink's website is in Dutch (as of mid-2019), but there is a Zantingh gas burner system customer reference<sup>10</sup> that says Ubink's production area at Tenerife is 250,000 m<sup>2</sup>. Also, you can search 'Logiqs Ubink cactus' to see links to pictures and videos of their automation system<sup>11</sup>. The Netherlands is a horticultural powerhouse, and deservedly so.

A gardener in the tropics can learn a lot about such technologies by watching videos of the mass production of potted plants. Poinsettia<sup>12</sup> is probably the most important Christmas potted plant and there are amazing videos of how tens of millions of potted poinsettias are produced to be sold at just the right time, every year. Like *Kalanchoe* flower forcing, poinsettias are also forced by exposing plants to increased hours of darkness in order to get their red bracts. And thanks to the global supply chain, in recent years some poinsettias can be seen on sale in Malaysia around Christmas.

There is no question modern mass production is amazing. The retailer is assured of a reliable and high quality supplier. The customer has the assurance that plants are nursery-grown and not wild-collected and everything is probably done in an eco-friendly fashion. A local competitor in Malaysia is unlikely to beat such an advanced mass producer of cacti in a straight fight.

Experienced cactus growers can also source their plants from a specialist nursery such as Uhlig Kakteen<sup>13</sup>. Note that Ubink probably offers hundreds of species of plants on a wholesale basis, that's nothing to scoff at. By comparison, Uhlig Kakteen has over 5,000 different species in their care.



An image search for Uhlig Kakteen, a specialist grower of cacti and other succulents in Germany. Check the videos too. (Low quality screenshot, 2019-07-27.)

10 [http://www.zantingh.com/en/references/cacti-and-succulent-grower-ubink-in-kudelstaart-is-growing-\(netherlands\)/](http://www.zantingh.com/en/references/cacti-and-succulent-grower-ubink-in-kudelstaart-is-growing-(netherlands)/)

11 <https://www.logiqs.nl/en/pf/ubink-cactus-succulent-nursery/>

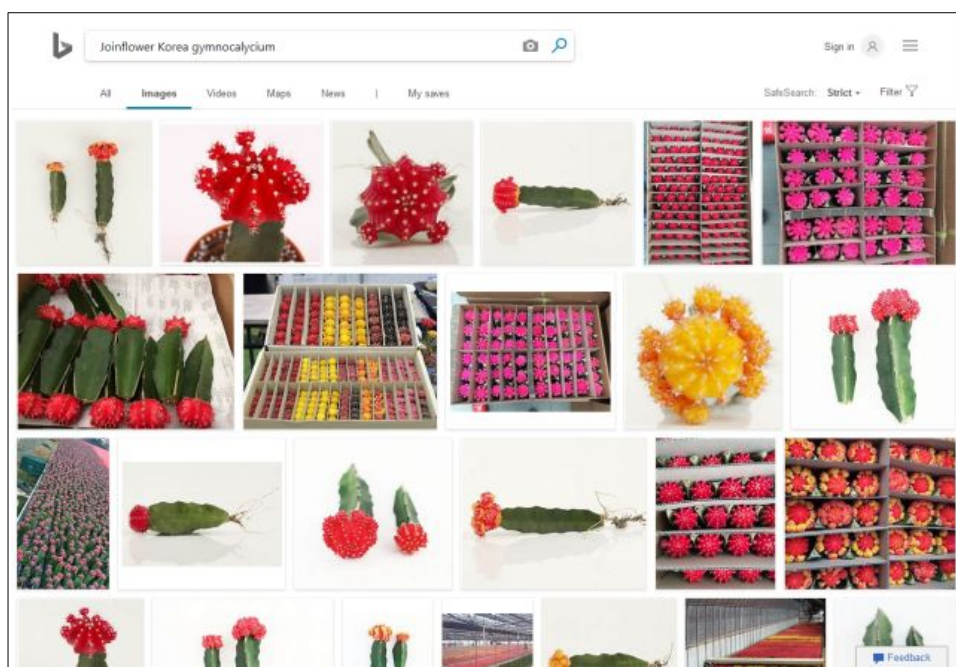
12 <https://en.wikipedia.org/wiki/Poinsettia>

13 <https://www.uhlig-kakteen.de/en/>

Ubink and Uhlig Kakteen, plus many other equally impressive operations, are options available to growers in Europe. This is due to a large and affluent market in Europe and in the US that can sustain very large scale operations that can offer quality plants for sale at a low price. In the US, Altman Plants calls itself “the largest producer of cacti and succulents in the United States<sup>14</sup>.” There are many specialist nurseries in the US as well.

South Korea is reputedly the largest global producer of grafted Moon Cactus, or *Gymnocalycium mihanovichii* ‘Hibotan’ (see the screenshot below.) A 2004 paper by Jeong *et al.*, “Production and Breeding of Cacti for Grafting in Korea” puts the global trade in grafted cacti at 15 million, of which South Korea accounts for 10 million<sup>15</sup>. But 2004 was a long time ago, so the data should be regarded as pretty out-of-date. Most Moon Cactus sold are the brilliantly coloured types, and the colours have improved over the years.

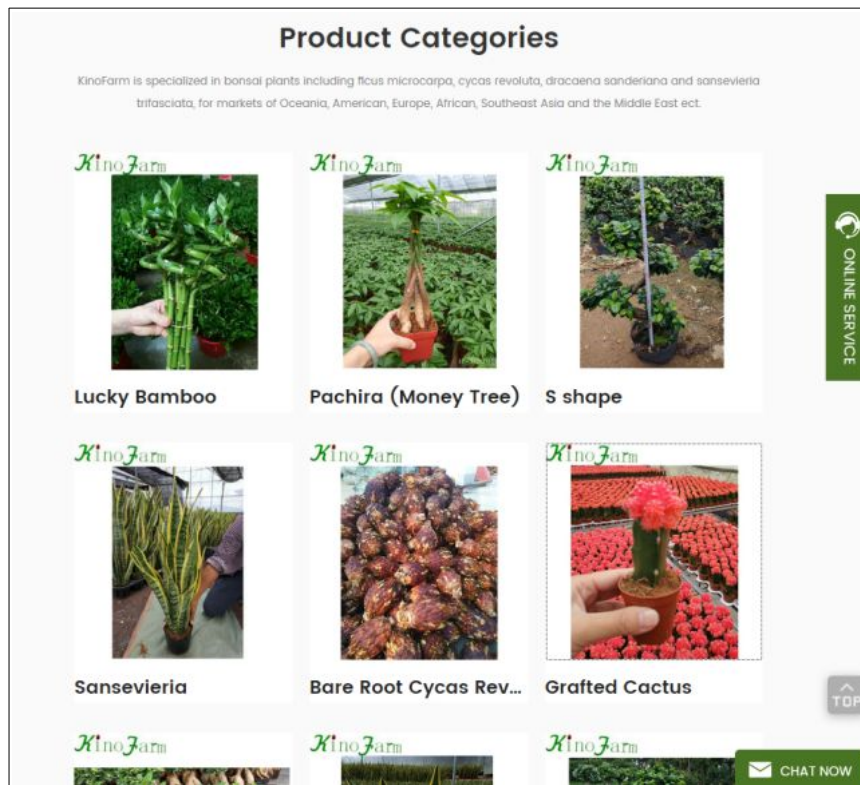
Interestingly, I couldn’t find anything on the Internet on how the chlorophyll-free *Gymnocalycium* mutants are bred and propagated; the commercial producers are probably tight-lipped because they need to keep their trade secrets safe – nobody wants to talk just yet. The Jeong *et al.* paper has a list of references which are mostly Korean horticultural papers. Thus, it may be possible to find the information; I’m not really a fan of Moon Cactus so I’ll leave it at that. But I suspect there is a lot of mutation breeding and a lot of tissue culture – modern biotechnology. That would be far beyond the capabilities of casual growers. Although I have read a lot about tissue culture in non-professional settings, personally I don’t see myself doing tissue culture, ever.



Joinflower Co. is a South Korean company and a Moon Cactus specialist. There are also large Moon Cactus producers in China. (Low quality screenshot, 2019-07-27.)

14 <https://altmanplants.com/brands/cactus-collection/>

15 It’s a freely-accessible PDF, search for the title plus ‘PDF’.



Kinofarm is located in Fujian Province, China. Their products are also listed on Alibaba. (Low quality screenshot of Kinofarm’s website, 2019-07-27.)

It is easy to find Chinese mass producers of cacti on Alibaba. Chinese nurseries generally focus on the most popular types. Kinofarm<sup>16</sup> is one such wholesale nursery that I found that has its own website (see the screenshot above.) Note that they are actually selling ‘auspicious plants’, and attractive cacti are merely a type of auspicious plant. Some produce Moon Cactus too.

For the urban gardener in Malaysia, if you browse for wholesale cacti on Alibaba for a while, you will recognize a lot of the plants you saw on sale at local plant nurseries. Note that it isn’t a good idea for consumers to buy direct from China, because any plant will need paperwork (phytosanitary certification plus a permit) to be legally imported into Malaysia. In Malaysia, the ministry and Kastam<sup>17</sup> is set up to facilitate commercial importers, not casual importers. Paperwork is also required for movement of plant material between East Malaysia and West Malaysia. Therefore, for Malaysians it’s best to let businesses do the importing and then buy local.

Modern mass production of C&S plants by the global horticultural industry is truly something amazing to behold. Production, in turn, is tightly integrated into the global supply chain so that the plants can be efficiently transported all over the world. Finally, the retailers can sell a finished, high-quality and affordable product – those commodity cacti – to consumers. Everybody wins... But where are all the happy buyers with their large C&S collections in Malaysia? Where did all the purchased plants go? Did everybody really win?

16 <http://www.kinofarm.com/>

17 Jabatan Kastam Diraja Malaysia – Royal Malaysian Customs Department.



Plants for sale at a hypermarket in Klang Valley, July 2019. The sign is a technically correct sentence designed to bamboozle or mislead consumers. Plant cannot absorb EM radiation in the same way an air filter filters dust. Use a Faraday cage instead.

## Everything is Amazing, So What is the Problem?

Sorry, I'm going to have to be a wet blanket and say that there is a problem, especially for cactus growers in tropical countries such as Malaysia.

Remember the point-of-sale? It's the pivot where money and plant are exchanged. On one side is the horticultural industry, who has perfected this big system to the tune of billions of dollars – the cut flower industry is in the many, many *billions* of stems annually. On the other side, you the buyer. In the middle is the retailer, who just wants to sell, sell, sell! And as you can see in the picture above, sometimes retailers will say just about anything to drive sales<sup>18</sup>. It's a grossly unbalanced scenario that favours the side of big businesses.

It goes like this: A tropical country such as Malaysia is not a big market for cacti. So we are a small market with a hot and wet tropical climate and traders import these plants and sell them because commodity cacti are the cheapest and best product. Look at what the sellers are doing and ask yourselves this: Does the importer know what works best in a tropical climate? Nope, they just import the usual mix of species. Are these species appropriate for cultivation in a tropical climate by gardeners who have little information to go by? I don't believe any of them has done any local testing – that costs money and effort. The business side is focused on making the sale.

<sup>18</sup> I believe this is the fault of the supplier – some of the supplied science-related feel-good gobbledygook, like the one in the picture, are *utter rubbish*. In August, these were still unsold – and deteriorating. Supplier *fail*. Buck up fellas!



Well, it got worse in November 2023. This was taken at the same location as the picture on the previous place. The culprit is, again, most likely the large horticultural company that has rather big footprints in every hypermarket. Looking at the names, it's clear that their marketing department think only about moving SKUs and meeting revenue targets. Well-trained business people. Britton & Rose? Good lord.

This is shallow, braindead marketing. Real C&S knowledge? Too hard, so skip it and make things up. Think about it: Would you trust their cultivation advice? Most of the plants shown cannot even be found among their usual offerings at the hypermarket. To me, this kind of thing would only be useful if they show pictures of C&S that have been in the hands of their customers for at least a year.

So everybody on the business side of the equation won. And the buyers, we got what we paid for. The business side would probably say that they were sincere in doing their part to make such amazing cacti available for purchase at great prices; that they weren't gardening specialists. Perhaps they relied on the assurances of the exporters, so they don't feel that there is anything wrong with the system. Who wants to spend years testing products that already look so good? I'll bet the importers are very much focused on shipments and revenue rather than the fate of their plants – if you waste time in a trading business you may miss the boat. In their version of reality, all is good.

So as Malaysian consumers, we paid for a cactus plant that is a finished product, grown in a climate that is different from where we are in. It was all too easy. Now what? Even with today's Internet, most casual growers of C&S in Malaysia are still struggling with cultivation. It's not that nobody's doing anything: I have come across advertising for a cactus growing seminar organized by Baba, a large manufacturer of horticultural products (\*cough\*) in Malaysia. But I haven't come across any well-grown C&S collections in my area nowadays. Whatever that is being done to push cactus cultivation in Malaysia is just not translating into success. Commodity cacti isn't selling like hot cakes these days; the deteriorating pots of them at hypermarkets is an indication that all is not well.

The retailers are selling a dream and we, cactus growers in the hot and wet tropics, have seen many pictures of fantastic specimens of cacti on the Internet to know what was promised by that dream. But the dream did not translate into reality.



Two *Haworthia limifolia*<sup>19</sup> in June 2018. When growing well, the plant on the left sent out flower stalks one after another. By mid-2019, harvested seeds produced an additional 8 seedlings (germination rate was poor.) Successful cultivation is much more satisfying than treating these plants as disposable items.

---

19 Well, it's supposed to be *Haworthiopsis limifolia* now, see its Wikipedia entry. Also see the Plants of the World website (<https://powo.science.kew.org/>) where it is *Haworthiopsis limifolia* (Marloth) G.D.Rowley. I will use the *Haworthia* synonym for now and give taxonomists about 20 more years to make up their minds.



Cactus Point in Cameron Highlands, Malaysia. Generally, nobody is growing them like this in the lowlands of Klang Valley. (November 2007)

## Point-of-Sale Perfection is a Consumer's Paradise

While it's fun to criticize the horticultural industry, there are no real bad guys in this drama. In driving towards higher volumes and revenue, the industry has developed into an apex from which it cannot climb down. They need as many people to buy horticultural products as possible. Hence, *consumers* are the target audience. There are not enough *gardeners* to sustain a huge horticultural industry. This is why a modern economy is a consumer's paradise. *Buy stuff*, yeah. But it's not just that: Consumers must be persuaded to *keep buying stuff* to maintain those revenue projections.

What about gardening? It becomes a hazy thing that happens after buying stuff. So much has been invested into the *buy stuff* bit that actual gardening has been lost in the cacophony. The tens of millions of cactus plants sold each year globally, ever wondered where they all went? Answer: most must be dead. But let's hope consumers buy more, ha ha. Put it another way, the industry and the consumers are locked in a co-dependent embrace while the gardeners are sidelined.

If consumerism has overwhelmed traditional gardening, what can be done to save the latter? Since one cannot easily come across good private cactus collections in Malaysia, it means that cactus cultivation is not trivially easy in this part of the tropics. The wholesalers are in temperate zones, too far away to help. The importers are more intent on making money. Nurseries and retailers generally have no experience in cultivating these plants for years. Some care more about sales volume. The sales staff think these are all desert plants and tell you the usual stereotypical cultivation tips. And if we search the Internet, most material is about collections in temperate countries. The path of the tropical urban gardener is thus littered with barriers and obstacles.



Mist descending in the afternoon in Cameron Highlands, Malaysia. Coursing across the picture is the main road passing through Brinchang. (November 2007)

Those barriers and obstacles can be quite subtle. One reason why Klang Valley cacti won't be as beautiful as those in Cameron Highlands is the tropical highland climate. The lowland of Klang Valley where I live has a suburban concrete jungle microclimate on top of the tropical climate. In the highlands, the conditions are cooler and milder. Milder conditions are better than a concrete jungle microclimate – it stresses the plants less and there are no heat waves to bake the pots<sup>20</sup>.

And then there is *the mist*. Without the rainforest I doubt there will be a lot of mist. The mist is one largely ignored factor that helps those cacti. All those spiny plants can absorb moisture via the mist. If someone in Cameron Highlands told you that you'd only need to water your pots of cacti once a week or less, then sure, it's all good – if you were also staying in Cameron Highlands.

Mild conditions and moisture via the mist enables the cacti there to stay in good condition for a long time. You won't be able to replicate such conditions in Klang Valley. So, even the wisdom of experienced Malaysian sellers of cacti may not be enough to guarantee success in cactus cultivation. While I cannot provide my cacti with a cool, mild climate, I spray the stems of my cacti regularly. Don't be alarmed – it's not crazy and I have good reasons to do it. All of this will be discussed later.

---

<sup>20</sup> Of course, the weather in Cameron Highlands may be different now. I only have old memories of the place.



## Consumer or Gardener, or Somewhere in Between

There is no true or 'proper' way of cactus gardening. Much of those commonly-recited cultivation recipes are just not working out in a place like Malaysia. We should experiment widely, observe what happens, then adopt stuff that works. The starting point is this:

### **What do you want from your cactus plants?**

Different people have different gardening styles and preferences. Gardener P may really like creating succulent arrangements to decorate a condo where space is at a premium, focusing on artistry and aesthetics rather than worrying about trying to save each and every plant. The modern retailing scene caters quite well to gardeners like P.

There is also a push by the horticultural industry to use succulents as a substitute for flowers. They'll say, succulents are wonderful for: table decorations, wedding gifts, wreaths, corsages, etc. The succulents in the picture below are in many shades of green because they are targeted towards this trend. It's a green alternative to flowers, they'll say, and it's less wasteful because you can remove the succulents from the decorative item and plant them in pots.



Seen at a plant nursery in Klang Valley, Malaysia (March 2017). This batch of stock has decorative succulents in many shades of green, in addition to colourful Moon Cactus plants – the supplier is very much in tune with the latest gardening trends. Arrangements of succulents for decorative purposes is something of a fad in recent years. But it's more art-fashion-decor-landscaping than traditional gardening.



Another view of Cactus Point in Cameron Highlands, Malaysia, from long ago. Note the more conventional selection of succulent plants – most of the species are in the same shade of green. One might say that these plants are targeted at gardeners.  
(November 2007)

From the pictures, we can see that the composition of succulent plants in 2007 and 2017 are quite different. In the past, the succulents sold are just regular species. Today, a lot of succulent plants sold are bred for their colour and shape: they are *cultivars*, or cultivated varieties. This breeding effort helps the horticultural industry to move from the gardener demographic to making these plants more attractive to the average consumer. I suppose it's a good marketing strategy to keep the sales of succulent plants healthy.

Gardener Q may not be interested in beautiful arrangements of plants at all, preferring to focus on the practical challenges of growing fine healthy specimens over a long period of time. Q may have been inspired by the many pictures of flowering cacti in books or on the Internet. And when cheap and beautiful specimens go on sale, they can be hard to resist. If you have failed to keep them alive for a good period of time, now you know why – a hot and wet tropical climate, ever-present pests and diseases, indifferent sellers and inexperienced growers all combine to spoil your cactus dreams.

P and Q are really not all that different. After gaining experience handling plants, P will want to propagate succulent plants at home. With a little effort it's easy to multiply them. Q still has to rely on the local horticultural industry to supply new specimens<sup>21</sup>.

In Malaysia we are all a kind of consumer-gardeners. Our biggest problem is the lack of long-term success in cactus cultivation. To rectify this problem, we need a body of knowledge that is well-matched to cultivation in a hot and wet tropical climate.

---

21 For the average grower in Malaysia, it's not cost effective to file the legal plant import paperwork by yourself.



Succulents on sale at a hypermarket in Klang Valley, Malaysia (August 2019). The plants appear to be *Echeverias*. This is the typical look of old, half-sold stock at hypermarkets. The best specimens have presumably been sold, so some of these are less than perfect-looking. A few are brown in colour and are totally dead.

A hypermarket would prefer to sell stock quickly; they have no capability to care for these plants under indoor fluorescent lamps. So, the economics of successful mass production and a consumer-driven marketplace dictates that plants are being sold like so many cut flowers – a disposable, mass-produced product.

## **Needed: A Body of Knowledge on Tropical Cultivation**

In Klang Valley, Malaysia, the cactus market has been stagnating for many years. The sellers have been pushing the usual trays of commodity cacti like half-asleep zombies. What about progress or improvement, or advancement of cactus cultivation? The different pots or trays, the carrying bags, the plant arrangements, all those ‘improvements’ are just ideas to improve sales.

To the seller, it’s all about sales and money. But to the buyer, it’s less about money and more about the *emotional investment* in a potentially rewarding long-lived plant. This emotional investment should not be taken lightly. A cactus plant is not a disposable cut flower. The sellers have mostly tried to treat buyers as malleable consumers – see shiny new thing, open your wallet, buy the product, never mind about imparting *knowledge*. So it’s no surprise if buyers feel their emotional investment in the cactus plant have been betrayed by the sellers.

If we assume the sale of cacti in Malaysia started in the early 1980s, that’s 40 years of retail with stagnation as the end result. As far as helping you to cultivate cacti is concerned, they have failed. Probably they have not tried very hard to help. They had 40 years to make things happen.

If we continue to rely on them, *nothing will improve, ever.*

So let's not rely on them. It is up to us gardeners to help each other by sharing knowledge.

This website will show you some of the things that can be done in a tropical climate with limited resources. I've killed plenty of specimens over the years, but among the many failures, some plants did well and a few species even realized their full potential. A few specimens (one is shown below) are probably in the over 20 year old age range. Originally, they were likely plants in 2 inch pots. I have never bought any large mature specimens.

Instead of gardening by guesswork, we need to understand what we are doing. With knowledge comes power. We can then take charge and push in the direction that we want. If we have a large body of knowledge of what works in the tropics, each individual gardener will be able to choose and apply knowledge as needed in order to turn their personal gardening vision into reality.

For inexperienced urban gardeners in the tropics, a potential problem would be this: *It is not possible to get instant results.* Cacti do take time to grow, and well-grown plants usually do not get that way without some effort on the part of the gardener. But it is possible to keep great-looking plants without too much effort. We just need to work smart – make your effort count. A shortcut would be buying large mature specimens, but even so, if they are cared for poorly, the plants may be reluctant to flower. Remember, think “practical solutions”, not “magical solutions”.



A bee in a half-open cactus flower. The two tufts are flower buds. Sometimes, one can detect a slight floral aroma if you put your nose very close to the flower; perhaps that is why bees often visit the yellow flowers. (March 2019)

## A Note of Caution for the \$\$\$-minded Folks

In case some of you folks think that I am offering a sure-fire money-making horticultural scheme that will surely<sup>22</sup> rake in loads of cash, let me just say a few words of caution here. Yes, it's possible to get fantastic results, but \$\$\$ will only get you short-term results. A specimen will not be healthy for long if you merely treat it as a prized trophy and not a living plant that needs to be cared for.

In order for fellow urban gardeners in the tropics to grow these plants well and see them flower, they need the knowledge to cultivate the plants successfully over a period of some years. So, maximum benefit for all means that knowledge cannot be withheld. Making such useful knowledge a trade secret will only enable the horticultural industry to further exploit consumers. I choose to empower fellow gardeners rather than keep them in the dark. So in this scenario, it will never be an exclusive thing that any single company or group can monopolize, control and exploit.

If you want to grow these plants for profit in the tropics, it will never be something exclusive to any one company. The horticultural industry is very good at turning widely varied species of cacti into commodity products. Any mass producer can order seeds and start supplying commodity plants in a few years. Remember what we have discussed – commodity cacti. As such, anyone who think that they can make a good business out of this must know what they are leaping into. I am only interested in spreading knowledge to fellow gardeners. Your business is *your business*.



Transplanting *Haworthia limifolia* seedlings, October 2019. These were grown from the seeds of the large plant on page 14. The seedlings are about 7 months old, grown indoors at a leisurely pace in a mix of jiffy pellet and coco peat.

---

22 “Shirley this is a million-dollar idea, what can go wrong?”

## Post-2020 Updates: Online Sellers in Malaysia, etc.

These days there are a lot of online sellers of C&S (cacti and succulents) in Malaysia. Often, they have a Facebook page. Those that are run as businesses can usually be found on online shopping malls. Many sell commodity cacti, but there are a few who sell very nice specimens, including some with flowers. Premium specimens are not cheap. There are also boutique outfits that sell beautiful or artistic arrangements of cacti and succulents. As always, *consumers* are well catered for.

I have never bought any C&S from online stores. If you are buying plants online, do apply your online shopping skills to minimize risk. Remember what was said about Malaysian import-export restrictions; it applies to movement of plant material between East and West Malaysia as well. Anything without the requisite paperwork may run afoul of Kastam. The need for phytosanitary protection probably means that seized plant material will be destroyed. If a seller helpfully mentions that shipping is *at your own risk*, it may mean that a transaction has ended in tears before.

As such, for Malaysians I think it is prudent to “buy local” whenever possible – for example, if you are in West Malaysia, stick to sellers from West Malaysia. And if you really must buy expensive specimens that need to go past Kastam, personally I think it’s a good idea to ensure that shipping is done correctly<sup>23</sup>.

If you come across sellers of C&S seed that originate from China, be very wary, for I have seen too many of such products sporting hilariously doctored pictures of C&S to ever trust them. See the next page for several examples that I picked out in April 2021 from two popular online shopping malls in Malaysia. Don’t fall for such traps! For most C&S enthusiasts, it’s a good idea to stick to buying plants from reputable local sellers with a good track record. Growing C&S from seed in a hot tropical climate is not a simple thing – you can read all about this in the chapters on growing cacti from seed.

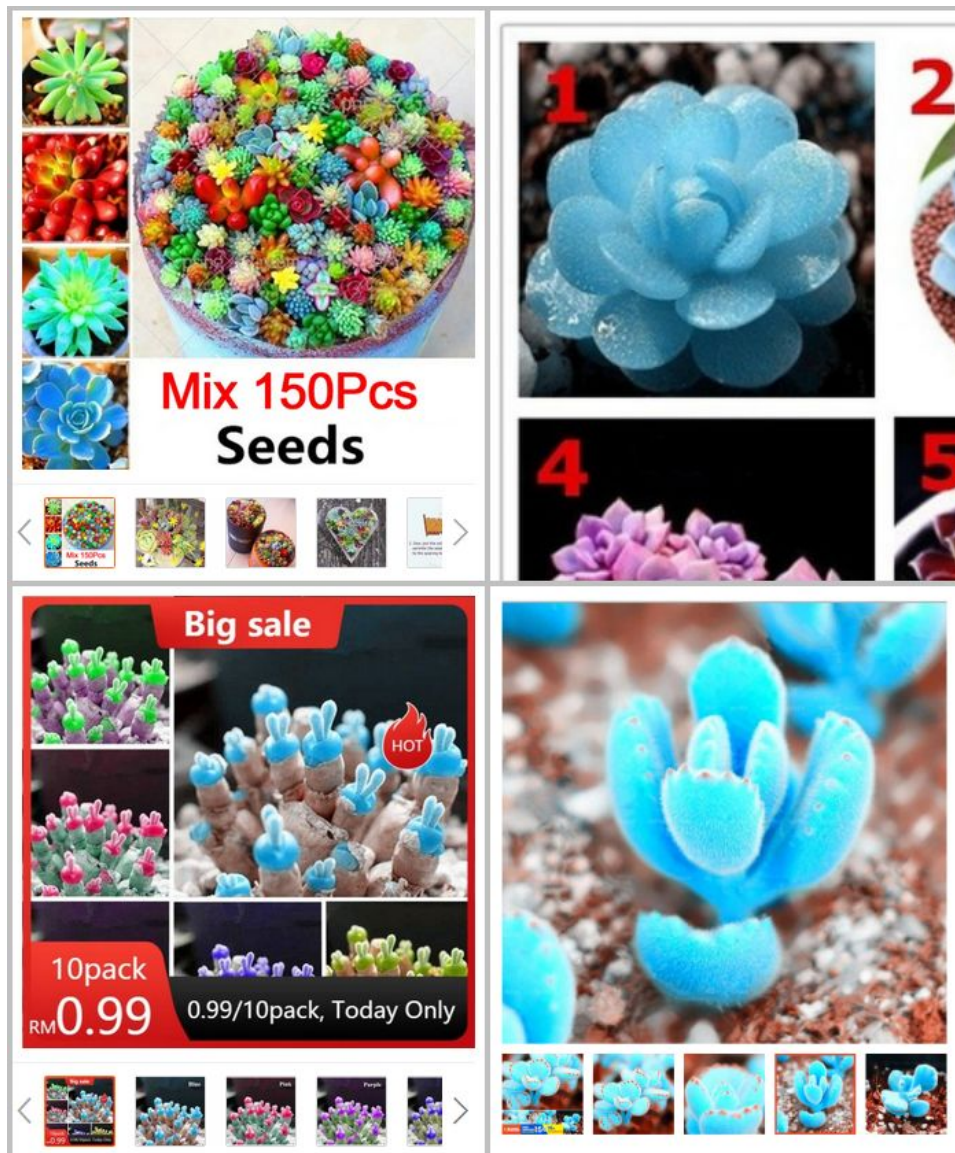
As of early 2021 in Malaysia, there are sellers who appear to be doing a pretty good job in caring for their plants. Everyone still appear to be selling imported plants, but some have specimens that flower and one or two appear to be trying their hand at pollination and growing the resulting seeds. If some sellers are successful in keeping their specimens healthy and are able to help their customers to do the same, I think that is a good thing in general.

I hesitate to call it a perfectly good thing though. Many online sellers also list a neonicotinoid insecticide for sale – it’s called Starkle or Starkle-G and it’s quite popular among online C&S sellers in Malaysia as of 2022 – so growing C&S successfully their way may require you to regularly spray a systemic insecticide to keep the bugs away. Also, the online mall listings appear to have Thailand packaging, so it may be something that Thailand sellers recommend.

That’s not the kind of gardening that I want to do, but it may be a valid solution or strategy for other C&S enthusiasts – if you want to grow some soft-stemmed cacti that bugs just love to attack, then a systemic insecticide may be the one practical solution. Or do what I did: stop buying soft-stemmed cacti if they get attacked too easily.

---

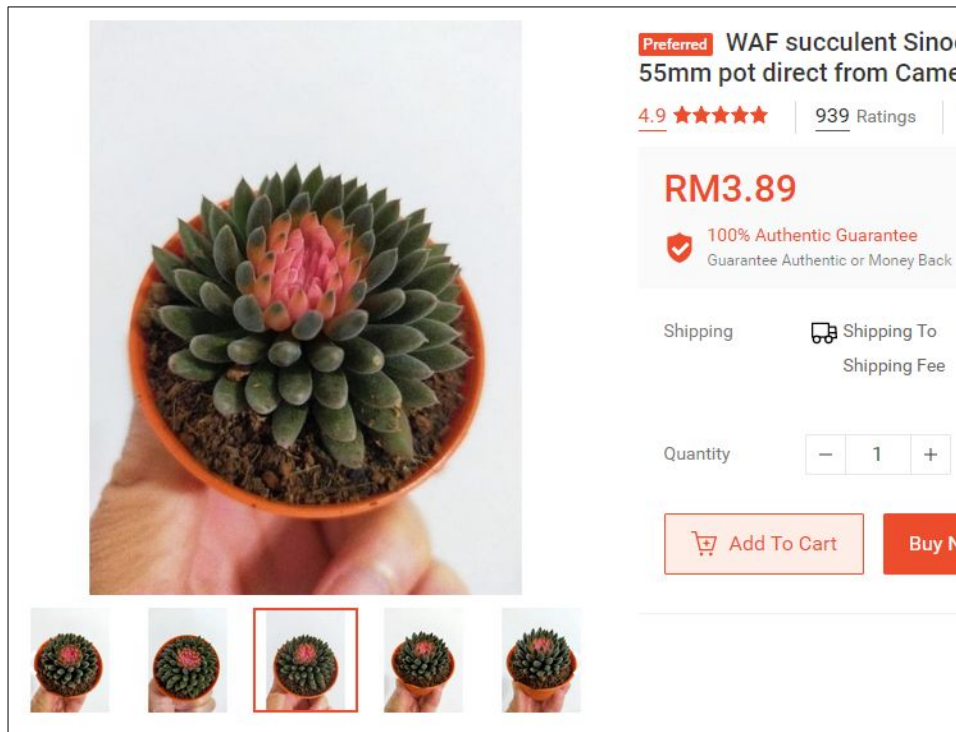
<sup>23</sup> In early 2022, it appeared that some folks managed to buy live blueberry plants from China on an online shopping mall. Then such listings disappeared. Hmmm... Buying from a local seller is the better, low risk option.



**Upper left:** A suspiciously perfect arrangement. The colours are too saturated and the sizes too uniform. Alibaba has a great selection of plastic succulent plants from which such a picture can be created. **Upper right:** A plastic plant that is translucent with a light blue colour. No living succulent has this kind of colour, transparency and texture. **Lower left:** Scammers often like to tweak the noses of their victims with something outrageous<sup>24</sup>. **Lower right:** Fluorescent blue, total horseshit, ahahahahaha!  
(Cropped and/or resized screenshots, 2021-04-15.)

Still, it's good to see that some sellers are serious about maintaining their stock. Those who sell premium specimens for example cannot treat their plants like disposable items – expensive specimens must look healthy to command high prices. Thus imported specimens that have been in Malaysia for a long time may be better acclimatized to local conditions. But I've also seen buyers' reviews about being disappointed with what they received – possibly the stock is old, so any online purchase is not without some risk. I for one would prefer to buy plants that I can see and hold.

<sup>24</sup> The shape may have been inspired by *Meyerophytum meyeri* sprouting new leaf pairs.



A *Sinocrassula*<sup>25</sup> with ‘special effects’ from a major online mall. The plant is described as variegated, which is not true, because variegation patterns are not like this. (Low quality screenshot, 2022-05-23.)

In 2022, I noticed a new trick by the horticultural industry to attract consumers to buy C&S plants. This is the pink centres on some succulents and cacti (see the above picture.) I have also seen this ‘special effect’ on small pots of mass-market bonsai, and sometimes it’s a yellow patch instead of a pink patch. I think the sellers are not being honest with the use of the word ‘variegated’.

Later in the same year, a batch of succulents with pink tips appeared at a hypermarket that I frequent (see the pictures on the next page.) They were rather eye-catching, but the pink tips are not flowers<sup>26</sup>. On one specimen, I noticed a very interesting pattern near some pink tips – you can see this in the second picture on the next page: There were some pink leaves with green tips!

It’s almost as if they used something to bleach parts of the plant, but missed the tips of some leaves. I’ve damaged one of my cactus plants with a household insecticide spray before, leaving white patches, so intentional bleaching can be done. Then the pink colour may have been added using some kind of dyeing process. It’s definitely not natural variegation.

Perhaps it’s a bit like those brightly-coloured dyed roses or chrysanthemums that seem to be selling well. Remember, these are marketing folks creating fun trinkets to sell to consumers. Please do not mistake this kind of stuff for gardening. It’s not gardening.

25 I don’t remember ever reading about *Sinocrassula* in the many old C&S books that I have, but I think I have seen small specimens for sale on occasion at plant nurseries in Klang Valley.

26 Succulents that look like *Haworthia* always produces flower stalks.





Succulents with special effects for sale at a hypermarket, October 2022.



A closeup of a specimen, taken about 2 weeks later (Nov 2022). The arrow points to one of several pink leaves with green tips.



These are six new *Gymnocalycium* plants that I bought in October 2021 for experimentation. You've seen one of them on page 7. The blue arrows point to residual yellow patches. Less prominent patches can also be seen on at least two other plants. New growth is normal, so the yellow patches are some sort of 'special effect' inflicted on the plants and not actual variegation.

I've seen old stock where the plants appeared to be trying to grow out of it. In fact, I bought a pot of *Gymnocalycium* like this in late 2021 (see above picture.) This was Chinese New Year stock, and the plants had large prominent patches of yellow at that time. One pot held six plants, so it was a cheap way to get new material for experimentation. When I purchased them, they have probably been sitting around for about 9 months; the unsold stock had grown out and the yellow patches had become almost invisible. New growth on all six plants is completely normal. Thus, the yellow patches are artificial and cannot be described as variegation.

I saw another kind of abomination in my area in mid-2022. Search for "painted succulents" on the Internet and you'll know what I mean. In my case it was a bunch of *Haworthia cooperi* for sale, painted in a few different colours – a bunch of shiny, colourful trinkets. I suppose the sales of succulents must be flagging; they have resorted to *painting* the plants.

So low-brow businessmen think that painted succulents is a good idea, just like they thought glued-on flowers was a good idea. These are manufacturers who are intent on making cheap expendable items, nothing more. I don't think these people are a good influence at all. Like I said, it's not gardening. It's crass consumerism.

## A Search for Useful Solutions

I am a C&S grower who wants to grow healthy and productive plants in Malaysia. In the past, I was just like any other C&S grower in the tropics. I tried to grow species that didn't die too quickly and I got a flower or two on occasion. I assumed that growers in the tropics would never be able to do much more than get those occasional flowers.

Then the Internet grew big and digital cameras happened. The former provided a hunting ground for clues. The latter provided a cheap way to collect massive amounts of visual data. I followed a clue and managed to solve a problem. *It turned out that some problems can be solved.* Then I followed more clues and solved more problems. Now I have healthier plants that are rather productive. Think of yourself as a citizen scientist: Collect the data. Study the data. Find solutions.

We need to gather much more knowledge on how various species of cacti behave in a hot tropical climate. My personal policy is to avoid blindly embracing online information<sup>27</sup>, because I have found that growing C&S in this part of the tropics is often a somewhat different cup of tea. A lot of the material on this website is based on my old cactus specimens, so in recent years I have started to add some new plant material for experimentation. Almost everything is documented, so you can see the pictures for yourself and form your own conclusions. ♦



I have lost my older *Haworthia limifolia* seedlings: they got baked when I moved them outside. Don't be too discouraged when things go wrong – often it's a chance to learn something so that we can make improvements. This is a new batch of *H. limifolia* seedlings in a container, again grown from my own seeds. Not all of these will survive my experiments, but at least I get more data. (April 2023).

---

<sup>27</sup> One cannot really avoid all those nice Youtube videos. But can you replicate exactly what they are doing?

## Version Information

This is the December 2023 Edition of this document.

Every released PDF can be found at: <https://www.mysmallcacti.net/>

## Author & Copyright

This work is licensed by **slime\_mold\_b** under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

Here is a human-readable summary of the license:

<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Here is the actual legalese:

<https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode>

**Note that the CC license does not restrict your Fair Use rights.** The key rules (Attribution-NonCommercial-NoDerivatives) is somewhat similar in spirit to the case where an out-of-print work is put on the Internet for everyone to read by an author who holds copyright over the material. It is meant to preserve the integrity of the work in its intended form. You can freely read it, print it out, criticize it, discuss it, etc. However, copying the material and claiming it as your own work would be a violation of the license. Extracting pictures and using them for a website with monetary return would also violate the license.

## Colophon

Written on LibreOffice. Most images were produced using GIMP and IrfanView. PDF tested using SumatraPDF. Fonts used include Liberation Serif, Arimo and Liberation Mono. The document is sized for A4 or Letter printing with enough whitespace for comfortable reading.

All pictures used to produce the images in the document were taken by the author unless otherwise stated. Images are not meant to be of art print quality. The pictures were taken by unsteady hands without a tripod, then they are cut or resized and finally resampled to about 150 DPI and a JPEG quality of 80 for screen reading and also to keep file sizes manageable.