Creating the first *Tradescantia* cultivar checklist

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Tradescantia zebrina 'Violet Hill'.

Contents

Introduction

A brief history of *Tradescantia*

Tradescantia is a highly diverse genus of around 85 species (POWO, 2022). In the past, many species were classified in separate genera, but today *Setcreasea*, *Rhoeo*, *Zebrina*, and several others are all considered part of the same genus. The first plants to be brought into cultivation were frost-hardy North American natives in the 17th century (Hawke, 2010), which quickly became garden staples. Tropical species collected in the late 19th and 20th centuries became common indoor plants, and have gained renewed appreciation in the houseplant surge of recent years.

Although tradescantias have been in cultivation for centuries, they have often occupied a position of "secondary" popularity. They are ubiquitous in most perennial or houseplant nurseries, but are rarely considered a specialty or top priority. Because of this tendency to go unnoticed, there has been very little horticultural research focused on *Tradescantia* in particular. There has never been a *Tradescantia* plant society, and few gardens or nurseries specialise in the genus above any other.

Consequently, the cultivar nomenclature of the genus has seen extensive confusion and instability. With no central register or authority, recordkeeping has been poor. The history of many older cultivars has been lost, even while the plants themselves remain widespread. Reused names and synonyms are common, resulting in frequent misidentification and uncertainty about the status of many cultivars.

The recent popularity of houseplants has greatly exacerbated these issues for tropical cultivars. The modern market for houseplants is centred on large international wholesalers, who mass-produce plants and distribute them around the world. In this process, plants are often sold with arbitrary trade names, or with no name at all. Retailers and suppliers may rename the same plants to appeal to their own customer base. Many commercial nurseries also use plant growth regulators to keep their products compact and attractive for sale (Bergstrand, 2017). The extreme morphological variability of many *Tradescantia* species means that some treatments can render a cultivar almost unidentifiable compared to its untreated state.

Like many people, I became interested in houseplants a few years ago. I developed a particular fascination for tradescantias and began to focus on collecting them, and soon applied to be provisional National Collection holder for Plant Heritage. But the uncertainty and instability of names within the genus made it very difficult to manage the goals or scope of the collection. These struggles inspired my research, and I set out to clarify *Tradescantia* cultivar names for myself and others around the world.

Aims and objectives

Aim: To clarify and stabilise cultivar nomenclature of the *Tradescantia* genus.

Objectives:

- Create a complete checklist of *Tradescantia* cultivars.
- Where possible for each cultivar, compile information on its origins, correct name, synonyms, and description, with sources.
- For tropical cultivars I have access to, create a precise description with colour chart values, to aid identification.
- Pursue International Cultivar Registration Authority status to formalise this process.

Acknowledgements

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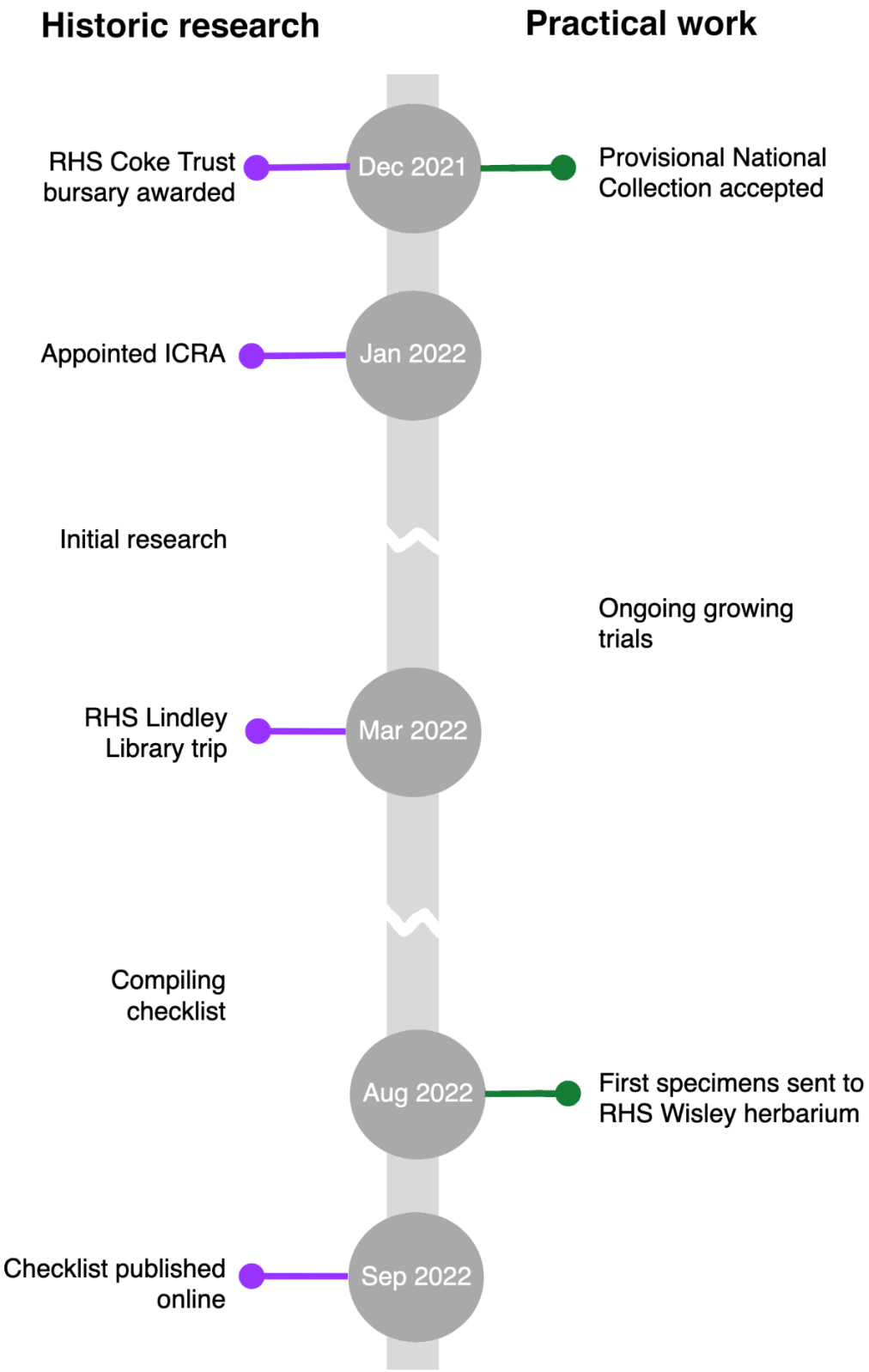
Thank you to the staff at RHS Lindley Library, to Melanie Underwood and the rest of the ISHS Special Commission for Cultivar Registration, to National Collection holder David Simpson, and to all the other researchers, collectors, and growers who helped with my work.

Tradescantia spathacea 'Sitara'.

Timeline


Historic research
Practical work
RHS Coke Trust bursary awarded
Dec 2021
Provisional National Collection accepted
Appointed ICRA
Jan 2022
Initial research
Ongoing growing trials
RHS Lindley Library trip
Mar 2022
Compiling checklist
Aug 2022
First specimens sent to RHS Wisley herbarium
Checklist published online
Sep 2022

International Cultivar Registration Authority

The rules for cultivar naming are laid out in the International Code of Nomenclature for Cultivated Plants (ICNCP). Inspired by the rules for botanical names, it gives precise guidelines on establishing priority, determining which names are valid, and using correct presentation (Brickell et al., 2016).

The goal of the ICNCP is to stabilise cultivar names both past and future, for the benefit of everyone who uses them. Towards this aim, it also sets out the system of International Cultivar Registration Authorities (ICRAs). These are organisations or individuals appointed to manage and record all the names in a specific group of plants.

I began studying the ICNCP in 2020, as I realised that there was no existing authoritative checklist or register of *Tradescantia* cultivars. Through 2021, I contacted the Special Commission for Cultivar Registration - the group responsible for appointing ICRAs - to ask various questions about how to apply the rules properly.

I soon realised that I was already beginning the work of an ICRA. A significant benefit of an ICRA is its function as a central authority which other growers and researchers know they can refer to, with the credibility and support of a longstanding international organisation. I could have continued my work independently, but I knew that being appointed as ICRA would be a great benefit in formalising and disseminating my findings.

My initial proposal was to divide the *Tradescantia* genus into two groups, the hardy garden cultivars and the tropical houseplant cultivars. The tropicals were my area of special interest, and I believed there was a clear enough division between the two groups to treat them separately. However, the Special Commission pointed out that hybrids between species are always a possibility and would be difficult to classify, and so were reluctant to appoint an ICRA responsible for only part of the genus. After discussion, in November 2021 I applied to cover the entire *Tradescantia* genus, and was formally appointed as ICRA in January 2022.

Living plant collection

I began to specialise in collecting tropical *Tradescantia* cultivars through 2020 and 2021. I submitted a proposal to Plant Heritage and was accepted as provisional National Collector holder in December 2021.

Initially I sourced more common cultivars from retailers which imported mass-produced plants from international wholesalers. As I exhausted the commercially available cultivars, I moved on to buying or exchanging small cuttings with individual collectors - most in the UK, some in Europe, and a few as far afield as the USA and Thailand.

To maintain a worthwhile National Collection, it is essential that plants be identified correctly. In some cases this is difficult to achieve. Commercially-sold plants are often given arbitrary trade names by retailers, and plants distributed by individual collectors sometimes have no name at all. Instead of relying purely on information from the source, my identification of the plants in my collection is based on cross-referencing information from multiple different avenues.

- The source of the plant can sometimes provide useful information, but it must be mediated by considering the reliability of that source. For example, a label provided by a nursery with many other correctly-labelled plants is more likely to be correct than one provided by a shop which often uses arbitrary trade names.
- Botanical research and books can help to determine the correct species identity of a plant, which in turn can narrow down the possible cultivar.
- Online articles and social media posts are a valuable way to find many photos of plants with a certain name to compare against. However this requires attention to the fact that many tradescantias can change their appearance dramatically in different growing conditions, and it may be impossible to know the history of a plant from a single photo.
- The opinions of other experienced growers can also be a very valuable way to confirm the identity of a cultivar which has no registered source or history.

In some cases, I had to use a more controlled trial to confirm the identity of a questionable plant. For these trials I took cuttings of the unidentified plant along with similar cultivars which may be identical. I grew matching sets of cuttings in multiple different conditions for several months, and observed whether they became identical or remained distinct. This method allowed me to determine that *Tradescantia pallida* 'Purple Pixie' was a unique cultivar and different from the much older *Tradescantia pallida* 'Purpurea'. It's also the way I confirmed that plants labelled 'Purple Joy', 'Purple Passion', and 'Red Jewel' were all trade names for the same cultivar, *Tradescantia zebrina* 'Burgundy'.

Tradescantia pallida 'Purpurea' (left) and *Tradescantia pallida* 'Purple Pixie' (right), grown in identical conditions.

Once a plant is confidently identified, I set about growing it large and healthy enough to write a precise description and take herbarium samples. I keep the main stock plants of my collection indoors where the temperature is generally a consistent 22-24°C, and I use artificial LED lights with timers. I also sometimes grow test plants on windowsills, in an unheated porch, and outside in summer, to observe how the same cultivar varies in different conditions.

Most tradescantias grow rapidly when they are healthy. But a small cutting can take months or years to grow large enough to display all its identifying characteristics. In particular, although all *Tradescantia* species have the ability to flower, in some tropical cultivars this is very infrequent. Different cultivars also have their own unique care requirements, and some required extensive trial and error to find out how to grow them to look their best.

My collection had ongoing issues with thrips through early 2022. These pests often hide in the folds of the newest leaves and can remain invisible even while causing extensive damage to the plants. I spent many months attempting to use biological controls (*Hypoestes* mites) and organic methods (horticultural soap) to eliminate them without success. In summer 2022 I resorted to a systemic pesticide (acetamiprid), which was able to eradicate the infestation after two applications. Many plants are still suffering from the effects of the pest issues, which has led to a delay in them reaching healthy maturity.

Once a plant matures enough, I describe it in detail. Using a full RHS Colour Chart provided as part of the bursary, I document the colours of the foliage - including stems, upper and lower surfaces of leaves, and any variegated patterns or variation between old and new growth. Where flowers are present, I also record the petal colour. In addition to the colour chart, I measure the typical leaf length and width, stem thickness, and internode length. When the plants are large enough, I cut samples to send to the RHS Wisley herbarium for preservation.

This process is still ongoing, as some plants are not yet mature enough to properly describe or take samples from. At the time of writing, of the 66 extant tropical *Tradescantia* cultivars:

- 59 are held in my collection.
- 29 of those are fully described with colour chart values.
- 20 of those have samples at RHS Wisley herbarium.

Research

Initial stages

The first part of my research was conducted online, using digital archives of historic printed material. With no plant society or other specialist sources to rely on, my only choice was to search general archives and check every result for relevant information. I referred to three main archives during this stage of the research:

- *European Nursery Catalogue Collection* - a collection of 1,725 catalogues from plant nurseries throughout Europe, ranging from 1884 to 1992. (https://archive.org/details/europeannurserycatalogues)
- *Henry G. Gilbert Nursery and Seed Trade Catalog Collection* - 4,681 catalogues from American nurseries, ranging from 1814 to 1982. (https://archive.org/details/usda-nurseryandseedcatalog)
- *Biodiversity Heritage Library* - an archive of hundreds of thousands of biodiversity-related publications, ranging from the 15th to 21st centuries. (https://www.biodiversitylibrary.org)

For each archive, I conducted keyword searches for “tradescantia”, as well as “rhoeo”, “setcreasea” and “zebrina” (the names of old genera which are now considered part of *Tradescantia*; POWO, 2022). I checked each result and took note of any cultivar names, especially those which included descriptions or images.

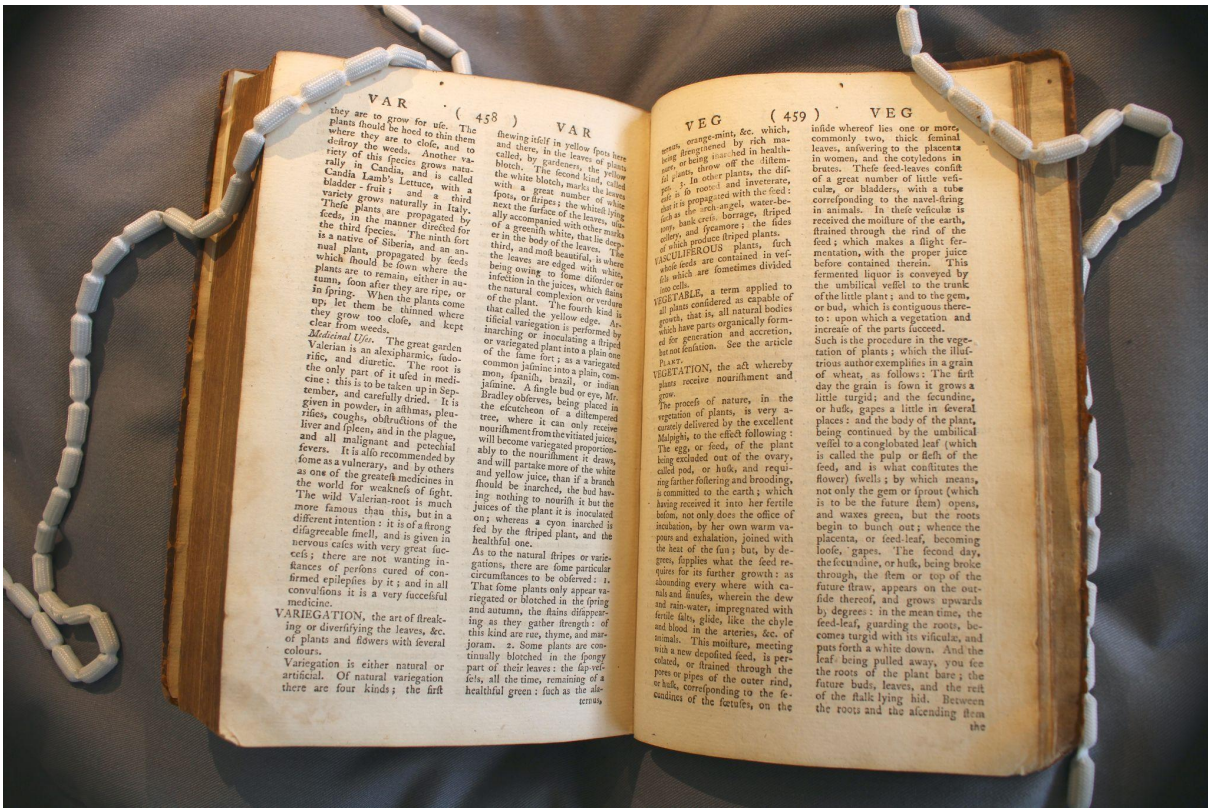
I also followed any sources that were mentioned in promising publications, and searched for specific authors or titles from references. Sometimes these ‘trails’ led me to publications I couldn’t access online, and I began to compile a list of everything I would need to see at the library.

Lindley Library

The majority of the bursary funding went towards a research trip to the RHS Lindley Library. I arranged two full days of research appointments on 22nd and 23rd March 2022, with three nights of accommodation nearby in London. In preparation I sent a list of the publications I wanted to see in the library, including 29 books and all available issues of the RHS Plant Finder (Appendix 1).

Because of the very limited availability of research appointments in the library, my colleague Lex Reader planned to join me on the trip - so we could get through twice the amount of material in the same time. Unfortunately, a few days before the journey Lex became ill with covid and had to cancel. I wasn't able to find anyone else to assist at short notice, so I made the trip alone instead. This meant the costs for travel and food were reduced, but it was too late to change the already-booked accommodation.

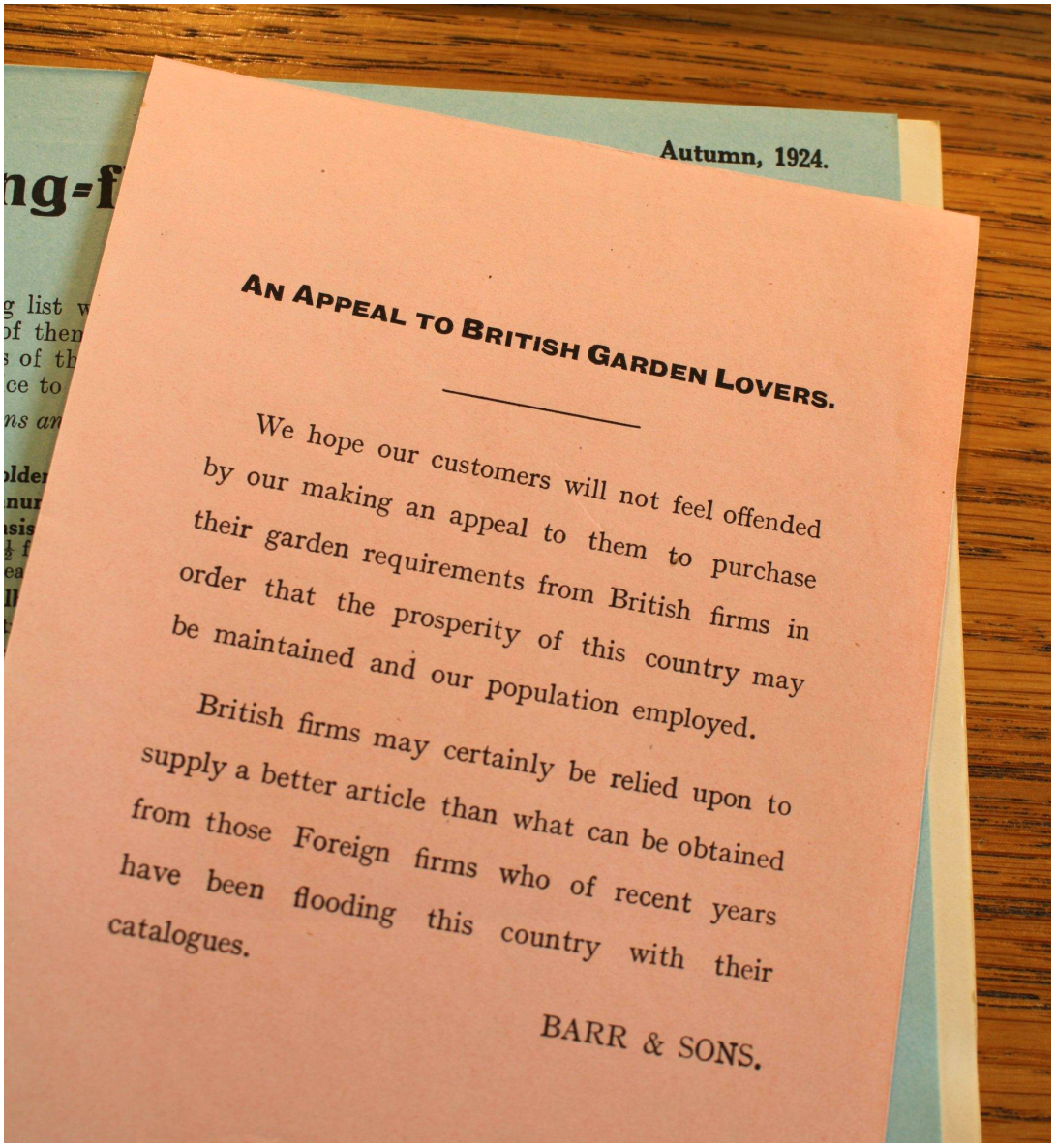
I attended the library for the planned research appointments and was welcomed by the librarians. My requested publications had been brought into the research room ready for me, and the staff advised me on how to use support cushions and snake weights to avoid damage to the oldest books while reading them.



Using snake weights and a support cushion to read *The Botanist's and Gardener's New Dictionary* (1763).

I took a methodical approach and worked my way through every book in the order they were shelved. For each book, I searched the index or contents for “tradescantia”, as well as “rhoeo”, “setcreasea”, and “zebrina”. I used my digital camera to photograph every page which mentioned any of these genera, so that I could examine them in more detail later.

Despite having to work without my colleague, I was able to search through all the publications from my request list with a little time to spare. With advice from the librarians, I then used the remaining time to search through some British nursery catalogues to check for any new introductions which I hadn’t found in my online archive searches.



Autumn, 1924.

AN APPEAL TO BRITISH GARDEN LOVERS.

We hope our customers will not feel offended by our making an appeal to them to purchase their garden requirements from British firms in order that the prosperity of this country may be maintained and our population employed.

British firms may certainly be relied upon to supply a better article than what can be obtained from those Foreign firms who of recent years have been flooding this country with their catalogues.

BARR & SONS.

A note included in a 1924 Barr & Sons nursery catalogue.

Other archives

After the trip I found a handful of documents which I had missed or forgotten to take photographs of at the library. I contacted the librarians and they were able to send me digital scans to avoid needing to travel all the way back.

I also sourced scans or hard copies of other potentially relevant documents, from various archives around the round. Some of these required fees for scanning or postage, which I was able to cover with the unused funds from the library trip.

- The Royal Botanic Gardens, Kew provided scans from *Curtis' Botanical Magazine*.
- Plant Delights Nursery (USA) sent copies of their own historic catalogues.
- Melanie Underwood located some cultivar registrations in old issues of the *International Hardy Plant Union Journal* at RHS Wisley library.
- University of California, Davis Library (USA) provided scans of a number of historic American plant nursery catalogues from their archive.
- The Community Plant Variety Office (France) provided detailed Plant Breeder's Rights registration documents for a number of European cultivars.
- The United States Patent and Trademark Office holds scans of US plant patents for several cultivars.
- I purchased a secondhand copy of the out-of-print book *Plants, Man and Life* by Edgar Anderson.

Plant Delights Nursery catalogues.

Online sources

The final stage of my research required a very different approach. Since the rise of the internet for global communication and sales, the amount of publicly-accessible information has increased exponentially. This means that not only is there more relevant information available through a quick search, but also that the relevant content is buried among even larger quantities or irrelevant or inaccurate sources.

For each modern cultivar name, I conducted Google searches for “tradescantia [name]” and scanned the results for relevant pages. At minimum, I sought either a static webpage or an online shop listing which named the cultivar as an extant plant. I generally avoided “listicles” and other low-quality content which did not seem to be written by specialist growers or nurseries.

From the promising sources in the search, I looked for the oldest available, using a combination of Google’s own tools to search by date, and Internet Archive’s Wayback Machine (https://archive.org/web) to find archived versions of each page. I also looked for the best sources containing detailed photos or descriptions of the cultivar. These sometimes included blogs or social media posts from individuals who had grown the plant, as well as listings from nurseries selling it.

Because of the transient nature of most online content, I used either the Internet Archive’s Wayback Machine or Archive Today (https://archive.ph) to capture archives of every source I referred to. This ensured that if the page was later deleted, anyone would be able to see the version I originally used as my reference.

In addition to internet searches, I attempted to contact many nurseries and growers directly to ask for information about their present or past tradescantia cultivars. Unfortunately this approach was very rarely productive. Most emails went unanswered, and the small number of responses I received were largely dismissive or unhelpful. The handful of productive conversations I had were generally with representatives of family-owned and longstanding independent nurseries, who were happy to share whatever they could recall. In contrast, the large wholesale nurseries I contacted all refused to share any information - even with my assurances that my research was non-commercial and in fact would likely act as unpaid advertising for them.

By the end of this information-gathering stage, I had compiled a draft cultivar list. It contained an entry for every name I had ever come across, each with a list of all the potentially relevant sources referring to it.

Compiling the checklist

Determining the correct names

All the information I needed was gathered together, so the remaining task was to analyse and compile it into a complete checklist. The first step was to find any sets of synonyms, and determine which name was correct.

Most of the oldest hardy cultivars are now placed in the Andersoniana Group. But the status of the group itself required some clarification when compiling the list. Before the 20th century, almost all hardy tradescantias were labelled as the species *T. virginiana*. Anderson & Woodson (1935) threw doubt over this when they wrote that they had never seen a garden *T. virginiana* which was truly the pure species - instead all the cultivated plants seemed to be hybrids with ancestry from *T. ohiensis* and *T. subaspera*. Ludwig & Rohweder (1954) coined the name "andersoniana" as a botanical hybrid, but by the end of the century it was being more accurately treated as a cultivar group.

In spite of the name's long history, it still had no precise established definition or description. Even the exact species which contributed to the group were not clear. Although Anderson & Woodson specified three main ancestors, they also mentioned the possibility of other related species being involved. Some cultivars were still identified as pure *T. virginiana* despite not having any particular features to distinguish them from the Andersoniana Group.

I chose to take a very inclusive approach to defining the group. Because the hardy species hybridise so readily - and have been in cultivation for so long - it is safest to assume that *any* garden tradescantia cultivar has mixed ancestry. So I placed every hardy cultivar in the Andersoniana Group unless there was reliable evidence that it was a wild collection or a known hybrid of wild species. This meant reclassifying some cultivars which had long been considered pure *T. virginiana*. I also wrote an inclusive description of plants in the group, so that the name can be properly established when the checklist is published.

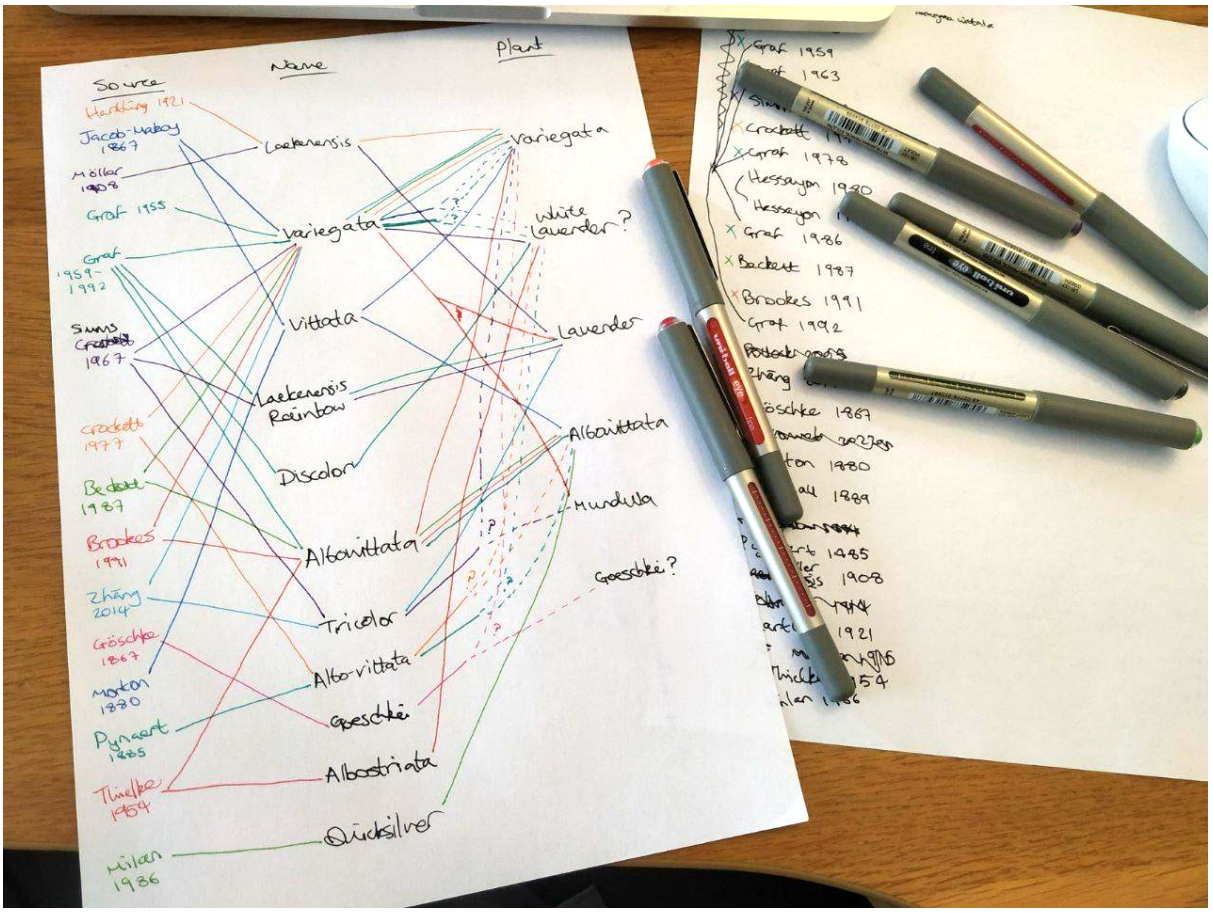
The hardy species' easy hybridisation also affected my approach to researching individual cultivars. Most Andersoniana Group plants flower and seed prolifically every year, which means selective breeding and new seedling selections are very common. It's easy to create new cultivars, and in fact it can be difficult to keep cultivar stock "pure" without careful attention. This meant that in my research, it was safest to assume that any new name for a hardy tradescantia represented a genuinely new cultivar, even if its description sounded similar to another.

Tradescantia (Andersoniana Group) Osprey (copyright David Simpson 2022).

In contrast, tropical tradescantias rarely flower in cultivation, and viable seedlings are even less likely. For this reason, the majority of new tropical cultivars originate either from wild collections or random sports. Whereas hardy tradescantias produce varied offspring easily, tropical cultivars tend to be very stable.

At the same time, they are remarkably easy to propagate and would often be passed around between growers with no label, and then be given a new name by the next person who started to sell them. Growers would often use Latin constructions like 'Variegata' and 'Vittata' for their variegated plant, not realising the name had already been used for another entirely unrelated cultivar. This meant that the same tropical clone was likely to be referred to with many different names around the world, and that the same Latin name was likely to be applied to many different cultivars through history.

To resolve these issues, I needed to exhaustively cross-reference the names, images, and descriptions used in different sources. One of the oldest cultivars of all, *Tradescantia fluminensis* 'Variegata', has not less than eight established synonyms. Meanwhile, the name 'Variegata' has also been used to refer to at least fourteen other cultivars in the genus throughout history.



Working on untangling the names of variegated *Tradescantia* cultivars.

For some cultivars it was difficult to determine the correct name according to the ICNCP rules. My position as ICRA allowed me to make a final decision to override other rules and accept one name, for the sake of stability into the future.

For example, 'Albovittata' was first described under the name 'Vittata' in 1867. The name 'Albovittata' wasn't used until 1976, which means it should be rejected because it was a Latin construction published after 1959. However, 'Albovittata' has become by far the most widely-used name for this cultivar, while 'Vittata' has become the accepted name for a different plant. To minimise confusion and instability, I made the decision to designate 'Albovittata' as the accepted name in spite of the other rules.

A number of modern cultivars had a single widely-known name, but had never been established in hardcopy. For these plants I generally chose to preemptively designate the name as accepted, in advance of it being formally published with the checklist. This provides the stability of an officially accepted name without needing to wait until hardcopy publication.

There were also a large number of unpublished modern names which I rejected. Most of these were superfluous new names for cultivars which had existing established names. Where these had never been established in hardcopy, they were instead designated as invalid trade names - not covered by the ICNCP, but still recorded in the checklist for completeness. Some of these names were uniquely associated with a specific cultivar, in which case they could be used as unambiguous selling names. Others had been widely reused to sell many different plants, and so were too ambiguous to identify any specific cultivar.

Some of the names I found in the oldest sources from the late 19th and early 20th centuries were impossible to resolve. Contemporary descriptions were often brief and vague, and rarely included drawings or photographs. Many old names had descriptions which could easily be interpreted as identical to another existing cultivar (making the name a synonym), or could equally be interpreted as unique (making the name an established cultivar which was lost from cultivation). For such cases I recorded the potential synonyms but specified that it was impossible to be certain about the status of the name.

In a handful of cases, I had to make a decision which involved rejecting a widely-used name. Several recently-discovered mutations have been in circulation among collectors with only descriptors like “variegated sport”, or the invalid Latin name ‘Variegata’. These names are against the ICNCP rules, and allowing them would only contribute to more confusion and ambiguity because they include vague or reused terms. In these situations, I conducted surveys which I shared in *Tradescantia* communities online, to gather suggestions and input for new valid names. I then registered them as new cultivars, with the new names accepted permanently over the old invalid descriptors.

One of the most difficult decisions I faced was how to deal with a particular group of cultivars in the *Austrotradescantia* subgenus. They seem to have come into circulation in the last 10-20 years, but in my research I was not able to find any hardcopy publications or evidence of their origins. Plants of this group are generally labelled by collectors as 'Albiflora Variegata'. The name is invalid for multiple reasons - it has never been established in hardcopy, it is in Latin (prohibited by the ICNCP since 1959), and it is misleading. *Tradescantia albiflora* is an outdated botanical synonym for the species *Tradescantia fluminensis*, and these cultivars definitely do not belong to that species, instead appearing to be hybrids.

Unfortunately this invalid name is still universally used. I didn't find a single other name used to identify this group of cultivars from any source. I was left with the choice between accepting an ambiguous name to preserve the stability of what it has always been called, and rejecting the rule-breaking name for the sake of clarity into the future. I consulted the ISHS Special Commission for advice, and after discussion we agreed that the name "Albiflora Variegata" was too confusing to keep, and should be rejected. I sought community suggestions and accepted a new name, the *Tradescantia* Continental Group.

Tradescantia Continental Group plants.

Writing up the list

Having determined the status of every name I had found, I moved onto writing up the final checklist. For every entry relating to the accepted name for a cultivar, I include two parts. The first provides all available details about the name and its history, in the following sections:

- Full name. The correctly-formatted and complete name.
- Name status. Whether the name is accepted (the valid name for a unique cultivar), an established synonym (a published name for another cultivar), an established uncertain name (a published name which may be unique or a synonym), or a trade name (an invalid name used to sell another cultivar). Where relevant, there is also a list of any known synonyms or trade names, and a list of any other uses of the same name.
- Origins. The place and date the plant was found or created, how it arose, and who was involved.
- Classification. Notes about the plant's species, hybrid, or cultivar group identity, including common misidentifications and outdated botanical synonyms.
- Legal protection. Any patents or plant breeder's rights registrations which cover the plant.
- Availability. Whether the cultivar is mass-produced (widely available around the world), locally available (from smaller nurseries and collectors), rare (last sold before 2020), or lost (last sold before 2000).

In each of these sections, I include references to sources for any information available - for example, to the catalogue which introduced the cultivar or to publications which identified it as a different species.

The second part is a description, including as many details as possible on:

- Growth habit. General size, shape, and vigour.
- Foliage. Leaf and stem size and colours.
- Flowers. Size and colours.
- Comparisons. Features to distinguish the cultivar from others which are similar.

For cultivars from my own collection, I write this section using my own observations and the RHS Colour Chart. In other cases, I include references to publications which described the plant.

I also include one or more photos wherever possible. For cultivars in my collection, I take photographs myself using a DSLR camera. For many Andersoniana Group cultivars, National Collection holder David Simpson provided photos. I also contacted various other nurseries and growers to request permission to use photos for cultivars I was unable to photograph myself.

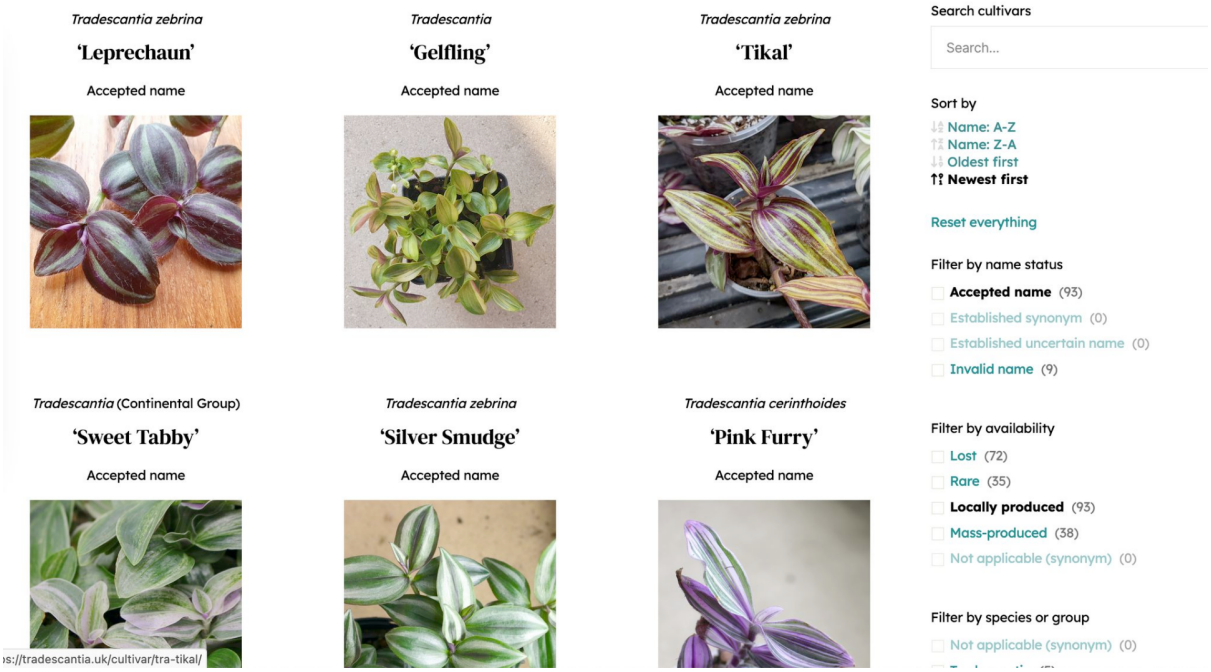
Tradescantia (Andersoniana Group) 'Zwanenberg Blue' from the National Collection (copyright David Simpson 2022).

The entries for synonyms and trade names are shorter, containing only the name status and a cross-reference to the accepted name(s) of the cultivars it is used for.

Organising and writing up entries for the checklist requires a difficult balancing act. The information needs to be precise, accurate, and well-referenced - otherwise my checklist would be no more useful than the amateur unsourced lists which circulate on social media. But it also needs to be accessible and understandable to lay people, otherwise it would not be widely adopted, and could even cause more confusion and misinterpretation.

To help meet these competing requirements, I broke each entry down into small sections which enabled readers to find only the information they were looking for - whether that was a reference explaining the choice of accepted name for a cultivar, or simply the colour of its flowers. I also wrote a guide with detailed explanations of the terms used in each entry, to allow interested readers to learn more.

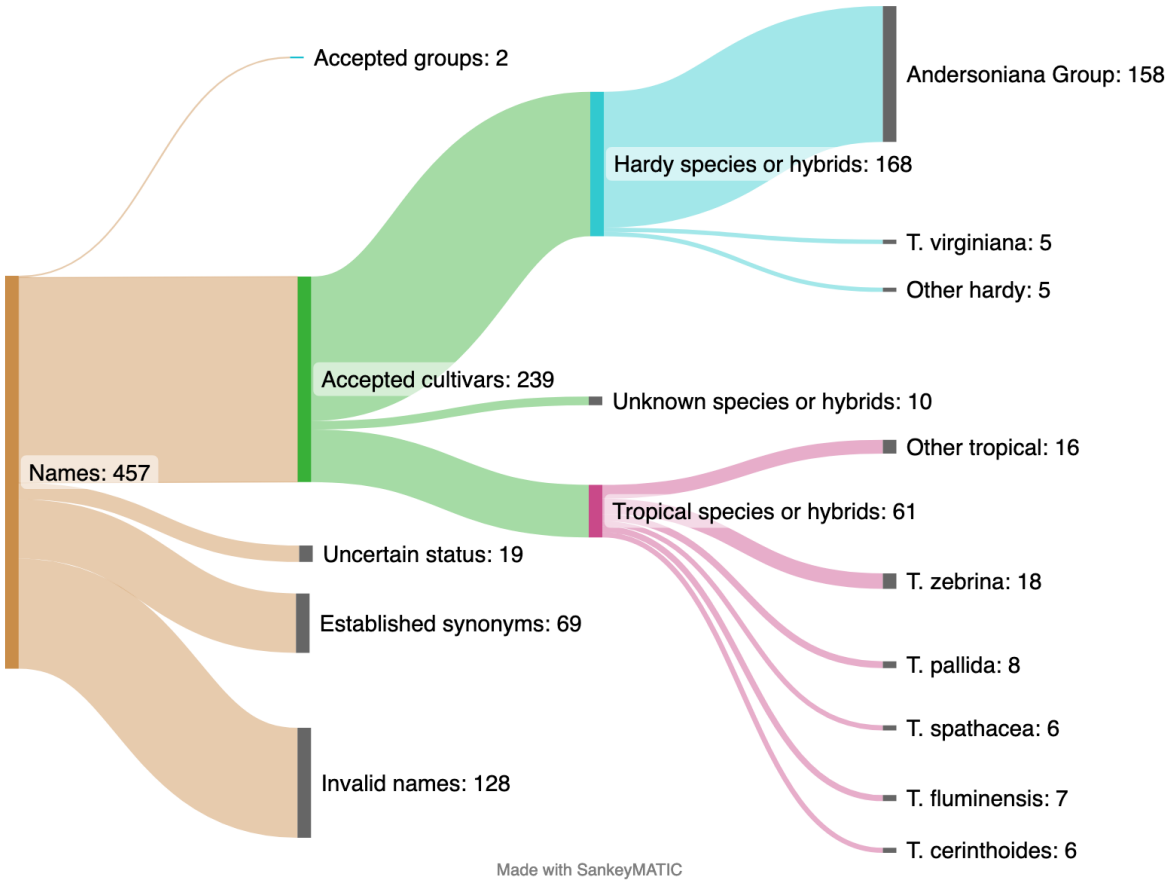
The complete checklist was made public in the form of a free website in September 2022 (https://tradescantia.uk/checklist). The list itself is viewed as a main page with each name and a thumbnail of its photo if available. I added filters to the page so that readers can narrow down the list, for example to see only cultivars of a particular species, or to search for a specific name. Each name links to a page of its own containing the written information, and any photos. Cross-references between entries (for example, lists of synonyms) have hyperlinks for easy navigation. References are also hyperlinked wherever the source is archived online.



View of the main cultivar checklist page.

To be formally established, the list will need to be printed in hardcopy. This will be a significant undertaking due to the amount of information included, so I am still investigating options for publication. But I chose to make the list available online immediately so that the information would be accessible for free around the world and without delay. Many houseplant collectors today are highly active on the internet, and having easy access to the list online is vital for it to be disseminated among these communities.

At the time of writing, the complete checklist contains 457 names, of which 239 are accepted cultivars and two are accepted cultivar groups. Two-thirds of the accepted cultivars are in the Andersoniana Group, with most of the remainder belonging to tropical species. The oldest known cultivar is *Tradescantia virginiana* 'Congesta', first described in 1794 and seemingly lost from cultivation. While the newest is *Tradescantia zebrina* 'Leprechaun', a seedling selection registered in August 2022.



Sankey diagram of the names in the cultivar checklist, showing every species or group containing at least five accepted cultivars.

Discussion

Revisiting aims and objectives

My original aim with this project was *to clarify and stabilise cultivar nomenclature of the Tradescantia genus*. I believe that I have achieved this aim. My specific objectives were:

- *Create a complete checklist of Tradescantia cultivars.*
  My checklist now contains 239 unique *Tradescantia* cultivars, and includes every name I have ever found used to label a tradescantia. No checklist can truly be complete - since new cultivars will be created, and it's always possible for old information to come to light. But I am confident that I have created the most complete list of *Tradescantia* names ever written, and that it contains every cultivar which is widely grown today, as well as a large proportion of all cultivars ever known.

- *Where possible for each cultivar, compile information on its origins, correct name, synonyms, and description, with sources.*
  Every entry in my checklist contains all the information I have been able to gather on each of these subjects, with reference to all the sources I took it from.

- *For tropical cultivars I have access to, create a precise description with colour chart values, to aid identification.*
  Because of the culture issues with plants in my collection, this objective is not fully complete. I have been able to create precise colour chart descriptions for many cultivars, but not all. I will continue this work as my plants regain their health, and I hope to have full descriptions for every cultivar in my collection by the end of 2023.

- *Pursue International Cultivar Registration Authority status to formalise this process.*
  I was appointed ICRA for *Tradescantia* in January 2022, and have been able to make formal decisions on a number of cases which would have otherwise required individual rulings from the ISHS.

Limitations and obstacles

Through the course of my research, I encountered a number of obstacles and unexpected changes. These required me to adapt my work and plans in order to meet my aims. Ultimately I was able to overcome each of them in some way, and a few even provided valuable learning opportunities I would not have otherwise had.

The first change - and perhaps the largest - was the ISHS Special Commission's request that I take on the entire *Tradescantia* genus, instead of the tropical cultivars alone. As is evident from the final checklist, adding the hardy Andersoniana Group tripled the number of accepted cultivars to be included. I also had much less general knowledge about cultivation of the group, because it was outside my area of specialist interest and not part of my own collection.

But I was determined to get the opportunity to clear up cultivar nomenclature for *Tradescantia*, so I chose to accept the responsibility of the entire genus. I made contact with David Simpson, who holds the National Collection for Andersoniana Group and *T. virginiana* cultivars, and he provided valuable advice and personal experience to make up for my own knowledge gaps.

I was also able to simplify parts of my research based on the ease with which new Andersoniana Group cultivars are created. Unlike when dealing with tropical cultivars, for hardy plants I rarely needed to investigate large numbers of potential synonyms. Instead each name generally represented a unique cultivar and didn't require so much detective work to confirm. In total I spent significantly more time researching the smaller number of tropical cultivars, for this reason.

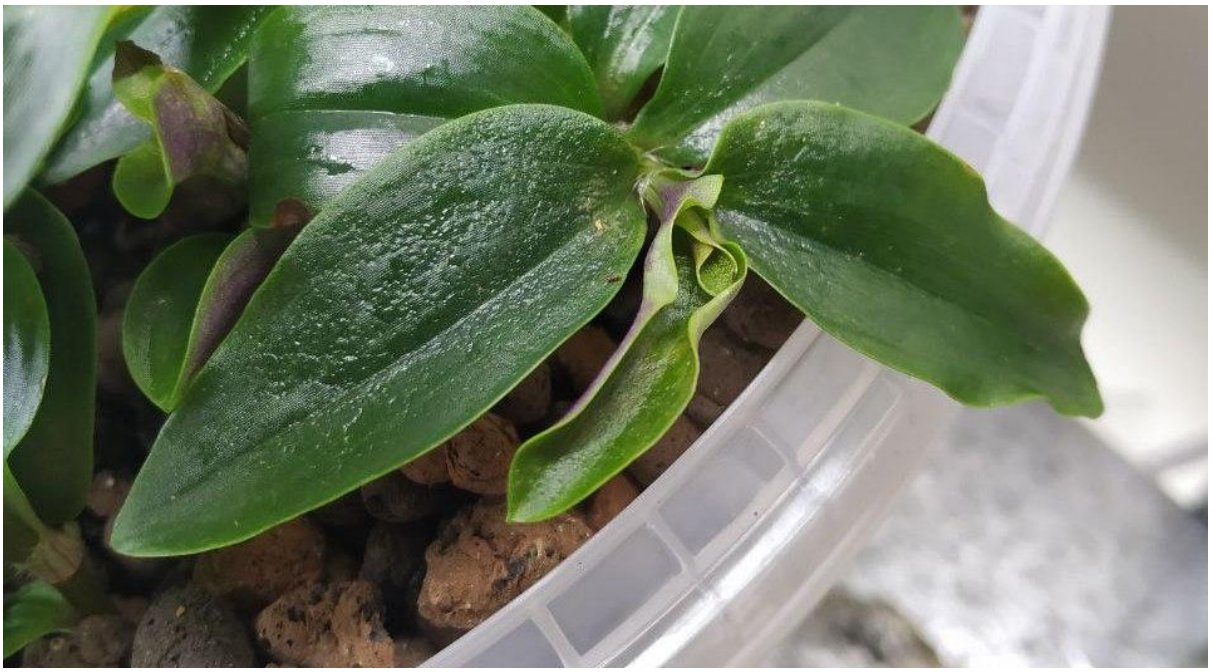
My colleague's last-minute illness was an unexpected issue for the library trip. After spending months planning the research appointments, accommodation, and travel (a 4-5 hour train journey each way), it was stressful to suddenly adjust my plans to make the trip alone.

Despite not having my colleague's help, I was still able to search through all the publications I wanted to see at the library. This was in part thanks to the library staff, who ensured I had easy access to all of my requests and helped keep them organised. I also took care to work as efficiently as possible in searching the books and taking photographs to study later, without getting distracted by browsing or reading as I went along.

The unexpectedly reduced food and travel costs also meant that I had some spare funds remaining from the bursary after the library trip. I was able to use these to obtain scans and archived copies of other nursery catalogues and publications from around the world, which I would not have otherwise had access to.

Other smaller issues were ongoing throughout my work. I made many attempts to contact nurseries in order to get information about tradescantia cultivars they had originated or introduced, but I found my overtures were repeatedly ignored or dismissed. It was very frustrating to feel that the information I needed was just at the other end of an email or phonecall, and yet inaccessible. There was no way around this problem. I continued to seek out as many other sources as I could access, but simply had to accept that some people would always choose not to engage with this ultimately voluntary system.

My own plant collection also had its own culture issues, familiar to any gardener. The most severe was a thrips infestation which spread throughout the collection in the first half of 2022. Although none of the plants were entirely killed by the pests, they all suffered damage - some very severe. This set back my progress in describing and photographing plants from my collection, and meant that the public checklist now contains some cultivars which still lack detailed colour chart descriptions. I was able to get the infestation under control in the summer by treating with acetamiprid, and most plants are now beginning their recovery. But it is likely to be well into 2023 before they are all healthy enough to make precise descriptions.



Leaf dimpling and curling caused by thrips on a *Tradescantia* Continental Group plant.

Reflections

Completing this project has been enormously satisfying, and I have benefited academically, professionally, socially, and personally. I also believe that my work has had - and will continue to have - positive impacts on individual growers and the world of horticulture into the future.

My previous formal education consisted of a BSc in mathematics and physics. The degree was challenging and stimulating, but was largely focused on studying textbooks, so I had no prior experience of true academic research. In the course of this cultivar checklist project, I have developed my skills in independent research. I have learned many ways to track down information, and how to evaluate and reference sources. I also gained experience in using specialist libraries - both in person at RHS Lindley, and remotely in my contact with other archives around the world. These skills will enable me to continue my independent research in future, whether in horticulture or other subjects.

I run a small online shop selling plants propagated from my collection. Before I began my tradescantia research I sold a variety of common houseplants, and struggled to make sales because I had to compete with larger - and cheaper - retailers. As my research and my collection specialised, so did my shop. This has improved my sales by allowing me to occupy a small niche which has little competition. In addition, becoming ICRA has provided me with more publicity and credibility, which has further benefitted sales. Being ICRA is an unpaid role, so earning money from my collection will allow me to continue to focus on and expand my research into the future, as well as simply helping me make a living.

Tradescantia (Continental Group) 'Sweet Tabby'.

The last few years have been a socially isolating time for everyone. Doing this research has led me to interact with a wide range of people I would never otherwise have known - fellow tradescantia collectors, librarians and archivists, specialist researchers, nurseries and growers. These interactions have not just been socially fulfilling, but have also expanded my network of contacts and provided opportunities for future development.

The personal value of this work is perhaps the greatest of all. I have found the process of doing this research to be challenging and engaging. It is immensely satisfying to finally track down an elusive source, or crack the mystery of an unidentified plant. Being appointed ICRA and knowing that I have completed a project which no-one in history has ever done before is an enormous boost to my confidence, helping me feel that I can achieve any future goals too. And aside from creating it myself, I am delighted simply to finally have a *Tradescantia* cultivar checklist to refer to as I work on my own collection!

Since publishing the checklist online a month ago, I have already received countless messages of appreciation from other growers. The confusion and instability of cultivar names in the genus has been a recognised issue in tradescantia communities for years. Many ongoing questions and arguments can finally be resolved by the publication of an official list. And the benefits will also extend to people who newly become interested in tradescantias in the future - they will now have a central register they can rely on for any questions of cultivar nomenclature. I hope that my checklist can serve as a valuable resource for years to come.

Tradescantia sillamontana 'Gold Stripes'.

Looking to the future

The checklist itself is still a work in progress - and always will be. Over the next year I intend to finish creating precise descriptions of all the cultivars I hold in my own collection. I may also begin to work on descriptions of Andersoniana Group cultivars by studying David Simpson's National Collection. But even aside from these aspirational goals, the list will never be truly complete. New cultivars are created all the time, and as ICRA I will continue to register and document them as they are added to the list. Older cultivars may also change, if new information or sources come to light.

Aside from creating and maintaining the checklist itself, a key responsibility of an ICRA is public relations. Since the cultivar registration system is voluntary, it can only be effective if growers are made aware of it. Now that the checklist is available online, I will increase my efforts to share the information with the public. I am writing an article about my research for the 2023 issue of *The Plant Review*, and hope to write for other publications too. I also engage in online groups and social media to encourage growers to register new cultivars and to share naming information. And I will make further efforts to contact nurseries and sellers to inform them about registration and offer help with identification and labelling.

The checklist also needs to be published in hardcopy to establish it. It would be acceptable to simply home-print two copies and deposit them at a library. But I believe that it may be worthy of larger scale production, so that it can be distributed to the public. I am currently considering options for this, whether self-publishing or working with a commercial publisher.

In the last year I have begun a collaboration with geneticists at De Montfort University to study the *Tradescantia* Continental Group cultivars. After some initial issues with extracting DNA, the most recent tests have been promising. My colleagues at the lab are now working on sequencing DNA of a range of samples from my collection, including all Continental Group cultivars and a number of related plants. We hope to at last find out which species or hybrids the Continental Group originate from, and perhaps clarify how the different cultivars relate to one another.

Collecting leaf samples for DNA extraction.

Outside of the Continental Group, there are a number of other cultivars whose species or hybrid identity is uncertain. If the current genetic research is successful, I hope to pursue it further and find out about more of these questionable plants.

Finally, I am also looking beyond *Tradescantia*. Since completing the checklist, I am still frequently asked about names which seem to be missing. These are almost always the names of cultivars from other genera in the Commelinaceae family - like *Callisia*, *Cyanotis*, and *Gibasis*. In horticulture it's very common for all genera in the family to be indiscriminately labelled as "tradescantia", and this often causes confusion among growers and collectors. I am now considering applying to expand my ICRA scope from *Tradescantia* to all Commelinaceae genera.

This would seem to be an enormous undertaking - expanding from one genus to around forty. But no other genus in the family is as widely cultivated as *Tradescantia*. In fact I estimate that the total number of cultivars in all other Commelianceae genera put together, would be less than the number of cultivars in *Tradescantia* alone. I would also be able to heavily draw on the sources I initially collected for the *Tradescantia* checklist, since many of them also included other Commelinaceae cultivars. I believe a single unified Commelinaceae checklist would be extremely valuable for growers into the future.

Budget

Category	Expense	Cost
Accommodation	Airbnb	-£497
Travel	Train	-£64.60
	Underground	-£2.50
	Taxi	-£25.99
Food	Purchased	-£26.03
	Brought with	-£20
Research	UC Davis Library scans	-£16.96
	Plant Delights catalogues	-£61.04
	Plants, Man and Life book	-£9.99
Total costs		**-£724.11**
Funding	RHS Coke Trust Bursary	£750
	Returned unused	-£100
	Personal contribution	£74.11
Total funds		**£724.11**

Signed

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Appendix 1

List of publications requested from RHS Lindley Library:

- RHS Plant Finder (all years)
- Gardener's Chronicle 162(24):8-9, 1967
- European Garden Flora
- Variegated Foliage Plants, Paul Fischer
- PPP Index Pflanzen Plantes Plants
- The Standard Cyclopedia of Horticulture, L.H. Bailey
- Hortus, L.H. Bailey
- Hortus Second, L.H. Bailey
- Hortus Third, L.H. Bailey
- Hortica, A.B. Graf
- Tropica, A.B. Graf
- Exotic Plants Illustrated, A.B. Graf
- Exotica, A.B. Graf
- Exotica 2, A.B. Graf
- Exotica 4, A.B. Graf
- Houseplant Encyclopedia, Ingrid Jantra
- Illustrated Encyclopedia of Houseplants, Anna Skalicka
- Illustrated Encyclopedia of House Plants, Violet Stevenson
- DK Pocket Encyclopedia of House Plants, John Brookes
- Macdonald Encyclopedia of House Plants
- Encyclopedia of House Plants, Nico Vermeulen
- RHS Encyclopedia of Houseplants
- Foliage House Plants, James Crocket
- Botanist's and Gardener's New Dictionary 1763
- Universal Gardener and Botanist
- A catalogue of orchids, exotic greenhouse, and hardy ferns 1855
- House Plant Identifier, Helmut Bechtel
- The House Plant Expert, Dr Hessayon
- The Indoor Plant Spotter, Dr Hessayon
- Encyclopedia of House Plants, Rob Herwig
- Illustrated Encyclopedia of House Plants, Jud Arnold