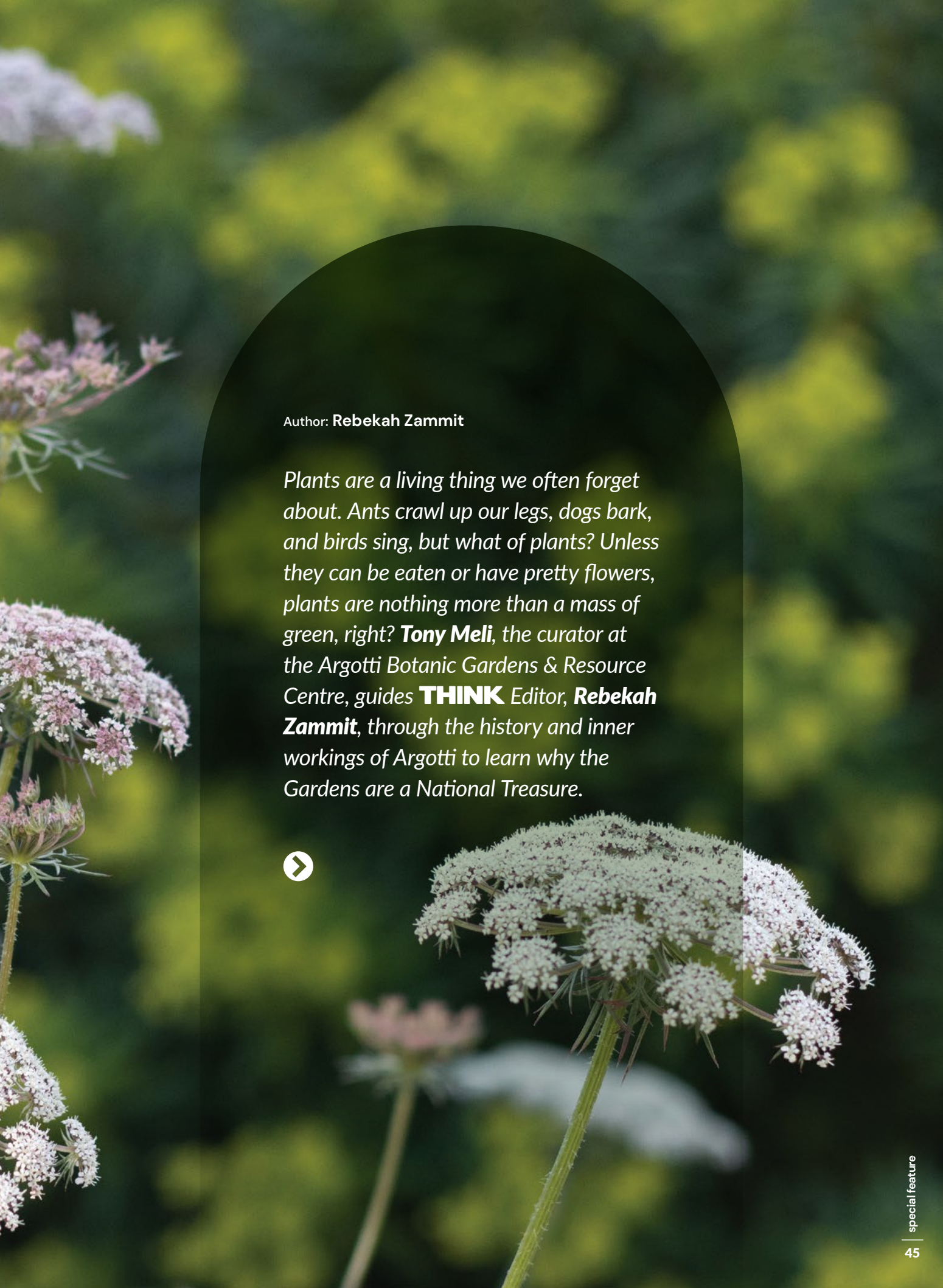
Argotti Botanic Gardens: Malta's National Treasure



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Plants are a living thing we often forget about. Ants crawl up our legs, dogs bark, and birds sing, but what of plants? Unless they can be eaten or have pretty flowers, plants are nothing more than a mass of green, right? ***Tony Meli****, the curator at the Argotti Botanic Gardens & Resource Centre, guides* **THINK** *Editor,* ***Rebekah Zammit****, through the history and inner workings of Argotti to learn why the Gardens are a National Treasure.*

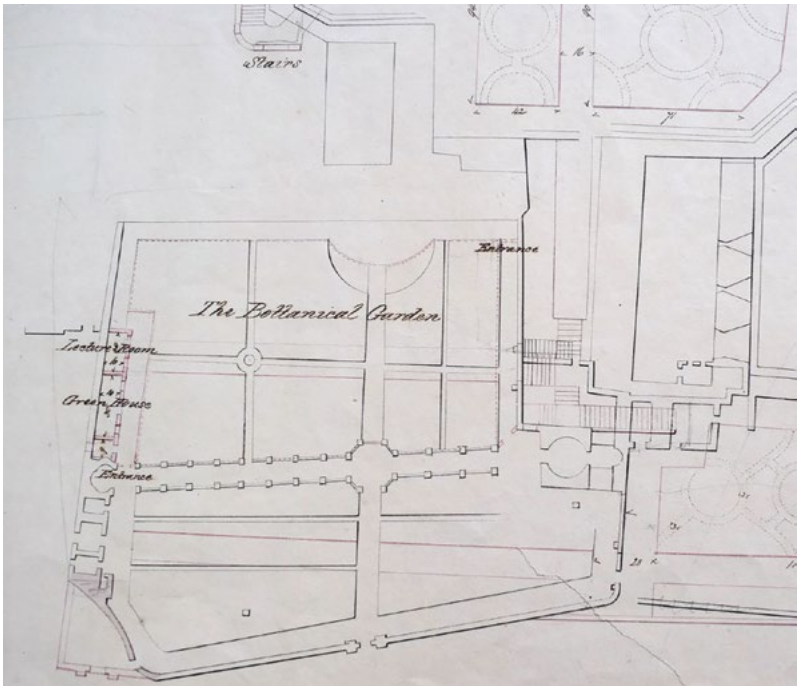
Argotti is the first and only botanic garden on our islands. The origins of its plant collection were rooted some few kilometres away near the Sacra Infermeria of Fort St Elmo in Valletta, where in 1674, a garden for medicinal plants and herbs was established for use by the Knights Hospitaller. These plants would live and serve beside the knights and their patients for many years before finding their home in Argotti. During these early years, the site of Argotti, within the limits of Sarria, was going through its own developments. In 1741, Argotti saw great change when Bailiff Argote de Guzman purchased the second half of the Gardens (at the time owned by Grandmaster Pinto) and commissioned the building of his villa, the Nymphaeum, and the adjoining premises.

Under British rule, the medicinal plants near Sacra Infermeria were moved to various gardens in Floriana (1805) and once again to their final location at Argotti Gardens (1855) under the guidance of Prof. Stefano Zerafa. Zerafa's contributions include the first account of Maltese flora, *Thesaurus of the Flora of the Maltese Islands*, and his discovery and naming of our national plant, *Cheirolophus crassifolius* (Maltese rock-centaury). Owing to Zerafa's work as a botanist and as the chair of Natural History at UM, Argotti came to hold not just historical prestige but also a wealth of botanic knowledge, becoming something of a living library and laboratory under the tenure of UM. In 1973, Argotti Gardens was taken up by the Department of Agriculture; however, the private inner parts of the Gardens, where one may find the extensive collection of plants, the villa, the Nymphaeum, and the Herbarium, were returned to the UM in 1996.

Argotti was officially recognised as a botanic garden in the late 1890s, becoming the third oldest botanic garden in the Commonwealth after Oxford (1632) and Edinburgh (1670) and the only accredited botanic garden on the Maltese islands. This title meant that Argotti had a documented collection of living flora for scientific research and education, conservation, and public viewing. Last October, Argotti was awarded the Botanic Gardens Conservation International (BGCI) accreditation, which has only been awarded to 104 gardens worldwide, reflecting Argotti's good practices. The BGCI is a network that provides standardisation of practices in botanic gardens, whereby receiving accreditation acts as proof of the gardens' documentation of plant material and active role in standard research, education, and conservation practices.

THE ROAD TO A NATIONAL TREASURE

Our tour around the Gardens begins at the Nymphaeum, or rather outside of it, since its delicate nature demands little interference. At the



1849 plan from the Public Works Archive showing the layout of the Inner Argotti

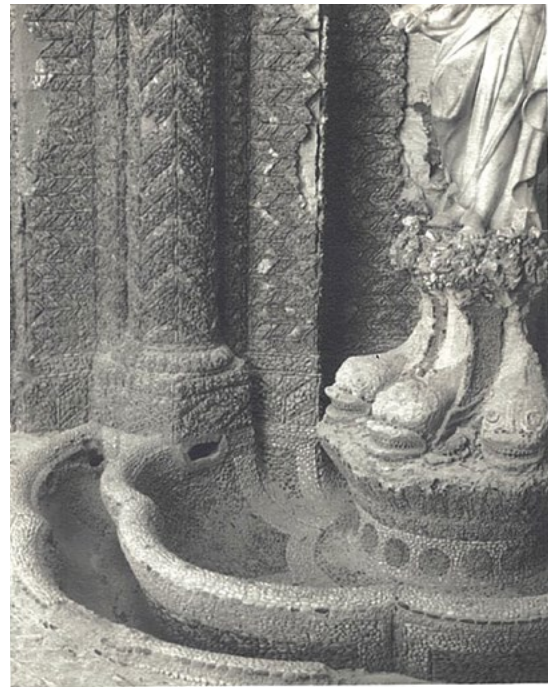
Image courtesy of Tony Meli

centre of the Nymphaeum, a marble statue of the goddess Venus once stood between two columns within an ornamental grotto of red coral, calcite crystals, seashells, and coloured pebbles. From her pedestal, Venus would have enjoyed the view of the entire Gardens. She was moved to a niche at the main entrance of the President's Palace in 1984, and very little of the grotto's embellishments remain due to deterioration. The Nymphaeum is protected by the Antiquities Act (1925) for its historic and artistic significance. Since the site is under Grade 1 protection, the team at Argotti are dedicated to ensuring that the Nymphaeum remains undisturbed until the necessary repair works to preserve and conserve the space take place next October.

The primary passageways leading away from the Nymphaeum guide visitors to different areas of the Gardens, each housing a particular family of plants. A collection of 16 different styles of stone urns dating back to the pre-1700s were found during recent reorganising works and now decorate the pathways. Upon closer inspection of a plant, you may spot an anodised aluminium label, marking the plant's perpetual presence at Argotti. This new labelling system ensures long-term durability and legibility compared to the laminated labels that were used until recently. Tony Meli, the current curator, opted for this system, inspired by the antique cast-iron labels found in Argotti, which gave a concrete glimpse into what plants were grown throughout the Gardens' history.

Such careful planning of the Gardens, down to the very layout, seems to tell a story in itself. As you walk through, it becomes apparent that the collection is not simply meant to be observed but is something to discourse with. Unlike a library's collection of texts, the Gardens are a network of living things, laid out for ease of viewing and understanding. In turn, this means that it is a living space that changes as plants and trees grow. The team takes note of these natural changes and makes adjustments. For instance, when the *Argania spinosa* (argan tree) was no longer the tiny tree it had been in the early 1900s, the cacti that once surrounded it needed to be moved and replaced with shade plants. The fruit of the *Argania* tree is presently being used to produce argan oil in-house.

Meli's experience as an agronomist and landscaper has allowed him to aid in this unveiling and instigate the needed general maintenance and reorganisation of resources. On our tour, Meli described some of the changes that have been made in the last few years at Argotti. One tangible change was the cutting back of a *Euphorbia abyssinica* (desert candle; imagine a rather elephantine, succulent tree) that was attempting to collapse an adjacent greenhouse by crushing the roof structure. This tree, which was reduced to a



Old photos showing details of the Nymphaeum's floor and fountain

Images courtesy of Tony Meli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A selection of plants from the garden

1. ***Matthiola incana*** **subsp.** ***melitensis*** **(Maltese stocks)**
2. ***Arundo plinii*** **(false seed)**
3. ***Phlomis fruticosa*** **(Jerusalem sage)**
4. ***Daucus carota*** **(wild carrot)**
5. ***Polygala myrtifolia*** **(African milkwort)**
6. ***Leonotis leonurus*** **(lion's tail)**
7. ***Bougainvillea glabra*** **(lesser bougainvillea)**
8. ***Lavandula multifida*** **(fern-leaved lavender)**
9. ***Tetradenia riparia*** **(misty plume bush)**
10. ***Allium*** **sp (ornamental onion)**
11. ***Viburnum tinus*** **(Laurustinus)**

Photo by Sarah Moffett

A hornet trap placed on top of a bee hive holding *Apis mellifera ruttneri* (Maltese honey bee)
Photo by Sarah Moffett

third of its size, still towers over the greenhouse but now stands proudly on its own innumerable 'feet'.

Since Argotti is a historic garden, the team is tasked with maintaining the traditional elements and preserving the story of the place. We see this through the urns around the gardens and the restoration and intervention works carried out, but also in the plants they accept to grow. For example, fig trees, which have strong, invasive roots, would not be grown, so as to preserve the foundations of the gardens and the surrounding structures. This mindset of preservation also took precedence when the team at Argotti discovered an invaluable book set of Carl Linnaeus's *Systema Naturae* dated to 1789 and handwritten fieldwork manuscripts by Argotti's curators and botanists (1843–1932), which were relocated to the UM Archives.

Meli also indicated that the mindset around rare specimens has also changed. Instead of prioritising the prestige of having a plant species exclusively homed at Argotti, Meli and his team have opted to propagate and reintroduce these species into their natural habitats to promote their longevity. For instance, the *Polygonum equisetiforme* (horsetail knotweed; it was once typically found in human areas) was last seen in 1970 on Manoel Island, and when its seeds wouldn't take, the team opted to propagate the plant through cuttings. Now, Argotti is not the only place *Polygonum* may be found. In line with this, Argotti participates in a seed exchange at the start of each year with other botanic gardens as part of the Index Seminum. The team prioritises exchanges with gardens that share a similar climate to reduce the mortality rate due to our hot summers.

As my visit took place around the start of summer, I had the opportunity to enjoy the Gardens before aestivation (summer dormancy). This meant that the buzz around the Gardens was in full swing, with hovering dragonflies, bobbing koi, goldfish and western mosquitofish, and whispers of local frogs and hedgehogs to be spotted. This burst of wildlife is reflective of another change observed in Argotti: the move towards creating an ecosystem of flora and fauna. Three beehives home to the Maltese honey bee (*Apis mellifera ruttneri*) are also found on-site, tended to by Jorge Spiteri, a reputable beekeeper, who also collects honey for sale at Argotti. Understandably, pesticides are only used as a last resort and never in areas close to the hive so as to preserve the delicate ecosystem.

RESEARCH AT THE HEART OF ARGOTTI

As a landmark that evolved through Malta's history since the 1700s, Argotti has much to offer, from history and architecture to botany and hands-on fieldwork. However, one of the most remarkable aspects of the Gardens is its Herbarium, which is a working

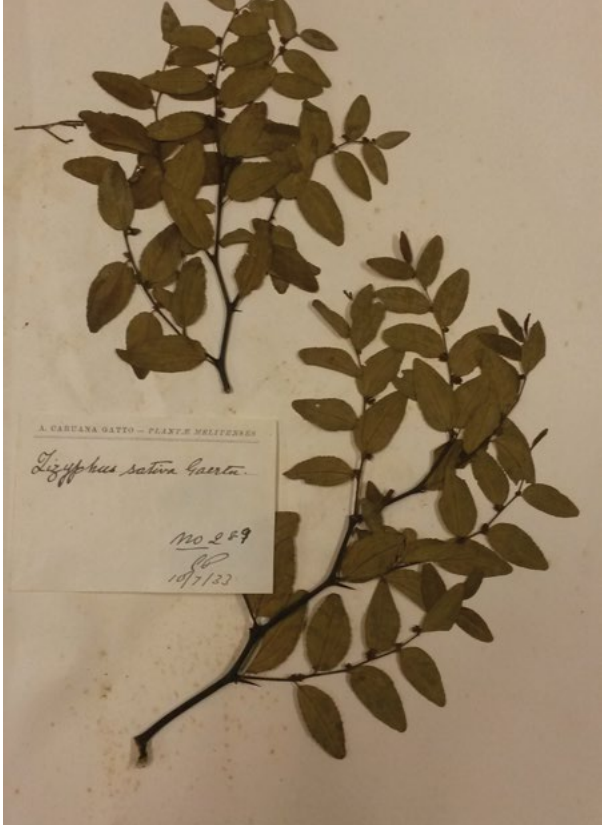
Top: Image showing ongoing works in the garden in regards to re-potting
Photo by Sarah Moffett

Top right: Japanese area with a selection of plants from neighbouring areas. The pebbles on the floor replicate the yin and yang symbol.

Middle: Citrus garden with central pond

Bottom: A selection of *Tradescantias* and *Araceae* grouped in a shaded area. Bark chippings were provided as ground cover to keep the area cool.

Photos courtesy of Tony Meli



Left: Herbarium shelves sorted by family

Right: Old herbarium specimen

Photos courtesy of Tony Meli

laboratory where preserved plant specimens (as well as fauna, insects, rocks, and fungi) are collected in insulated cabinets for scientific study. Since its records date back to the early 1800s, it is possible to trace how the changes in our natural landscape have affected various ecosystems, even leading to extinction in some cases. Technical Officer Erika Puglisevich notes that knowing what once grew in an area and understanding why it isn't there anymore is invaluable for conservation efforts when it comes to reintroducing plants to an area.

The team at Argotti and its student volunteers have undertaken the major task of processing the extensive data collected in the Herbarium, which will allow for more research and educational opportunities. The Herbarium also holds a few type collections which act as physical, standard references for scientists to compare and identify similar plants. The latest collection added to the Herbarium is that of the eminent Maltese naturalist Michael Briffa.

Presently, Argotti participates in research through collaboration, such as for the ECO-Composites Project, where 183 American Agave plants were donated to experiment with their fibres. Argotti was also involved in an expedition with a team of Spanish botanists led by the staff at the Real Jardín Botánico CSIC, Madrid, who were making a herbarium collection of all the plants around the Mediterranean area. This collaboration allowed for the pooling of resources and expertise, with Argotti receiving the same specimens' duplicates, effectively increasing its own herbarium collection.

So, returning to the original question: are plants really just a mass of green? While most plants are certainly green and share many physical features, they're as alike as you and me – each one an exquisite detail in a beautiful botanical tapestry. Argotti unveils plants' unique features and individual needs, allowing us to experience the wonders of nature. As such, it is just the right place to understand our greener kin, serving as an open classroom for budding and seasoned botanists learning more about plant conservation, ecology, and bioactive plant extracts. Soon, besides the laboratories that are already open for use, Argotti will be opening the villa and greenhouses for researchers interested in working on-site. And once that is all done, it will also remain a good place to go and touch grass.