

OPUS Herbarium Tour of European Herbaria

April, 2016

Thomas B. Croat, P. A. Schulze Curator of Botany

Missouri Botanical Garden

This was the second of three extensive herbarium tours. In contrast to Asian or African Institutions which largely house regional collections, many European herbaria have large numbers of important collections of Araceae. I embarked on the European trip on April 1st flying first to Italy. I had made a side trip on a weeklong visit to Israel and Jordan so I arrived in Italy via Athens. From Rome, I took a train north to Florence, a city which has some of the oldest and most important herbaria in Europe. I was mostly staying in hostels while in Europe because they were inexpensive and at this off-season time, I often was alone in a room with several beds.

❖ *Florence, Italy*



Florence Herbarium

I had arranged for a place to stay in Florence near the main station and was met by, **Lia Pignotti, Curator of the FT Herbarium.** Lia soon arrived on her bicycle and she walked me to the

herbarium about a kilometer away. I memorized the route and returned by the same path later that day. The route led by an old castle wall and through a big park then past a small community surrounding a local church. The FT Herbarium is the **Centro Studi Erbario Tropicale of the Department of Biology-University of Florence** with about 5 million, 230.000 collections. It was founded in 1904 in Rome by, Romualdo Pirota and later moved to Florence in 1914. The current Director of FT Herbarium is Prof. **Alessio Papini** (until 2021). **Riccardo M.**



Riccardo Baldini

Baldini, former Director (2012-2018) of the FT Herbarium and currently the editor of *Webbia*, is one of the foremost tropical botanists at the institution. A specialist in Gramineae, he has spent a lot of time working in Panama with Orlando O. Ortiz. Riccardo is also a member of the Management Committee of the FT Herbarium. There are many collections by other Venezuelan collectors, among them are, Father G. Bono, who donated ca. 18.000 collections, which were recently revised by, Otto Huber, a German botanist who spent much of his career in Venezuela. Another Italian botanist, Leon Croizat, spent much of his career in Venezuela as well, but was not so much a plant collector.



Chiara
Nepi

The main herbarium collection in Florence is the **FI Herbarium**, located in the **Natural History Museum** of the University of Florence at Via G. La Pira 4, Florence 1-50121. The FI Herbarium (including the Webb Herbarium) has about 5.000.000 collections. It is curated by, **Chiara Nepi**. The FI Herbarium is the older institution, founded in 1842 by Filippo Parlatore and they have many aroid type specimens, especially from Africa and Asia. The FI Herbarium also has many Venezuelan aroids collected by botanist, Luciano Bernardi, a specialist on Lauraceae. Both herbaria, FT and FI, are located in a large, old building where the specimens are tied in bundles, which I observed elsewhere in Europe, to make them easier to get down from the herbarium shelves and cabinets that are stacked high on the walls. On Friday, a group of us went with Riccardo to one of his favorite restaurants in downtown Florence, “Il Fagioli”, for a big steak dinner where we said our farewells.

❖ *Munich, Germany*

I took off early the next morning for Munich but did not realize how complicated my departure would be. The ticket to Munich from Florence only indicated that I was to get off in a small suburban station and wait for the

main train to depart. Not knowing exactly which stop I was to exit, I waited a bit too long to de-board and found myself a long way off in the northern part of town. After exiting, I found a train heading back to the proper station and was very lucky that they had a ticket office. I was able to get another train with connections to Munich, which did not delay me much. Florence has a wonderful citywide Wi-Fi system so I was able to use my computer to send Josef Bogner in Munich a message as to when I should arrive.

The train to Munich passed north Verona, Rovento, Trento and Bolzano and then climbed steadily through towns with both Italian and Austrian names, (Vipiteno (Sterzing), Fortezza (Franzansfeste), to the Brenner Pass at 1371 m, then descended to Steinbach in Tyrol. The line then headed due east to Jenbach, Wögil and finally north to Kufstein, Rosenheim and Grafing before reaching Munich about 7:30 PM. It was still daylight and Josef met me at the station. We went in his car to the botanical garden where he had booked me a room in their Guest House.

The following day was Saturday so I got up early to take pictures in the adjacent gardens because by now many plants were flowering. When Josef arrived, we went to the herbarium and worked all day with the collections. The

Munich Herbarium (M), (Botanische Staatssammlung München) founded in 1813 is located inside the Botanical Garden (Botanischer Garten München-



Joachim Esser

Nymphenburg is found at Menzinger Str. 65 west of downtown Munich in Bavaria. It has 3,200,000 collections and has several curators, but **Joachim (Hajo) Esser** is in charge of the Monocot Herbarium. Since I was working on

the weekend, I was assisted by, **Josef**

Bogner, who is officially a

retired gardener that spent nearly his

entire career there and now has an

honorary Ph.D. Josef built up the

Munich living collections to be the

richest of its kind in the world with more

different genera than any other institution. Josef is the

world's authority on most things involving Araceae and

has dabbled in most groups worldwide, but owing to his

limited resources and time had worked mostly at the

generic level, even coauthoring the acclaimed “Genera of Araceae”, the definitive work on the family. In the

summer of 2018, Josef received the H.W. Schott Award

for Excellence in Aroid Research at the XII International

Aroid Conference in Cali, Colombia. We finished our

work in the herbarium by the end of the day and went to



Josef Bogner

dinner then stopped to purchase a tram ticket for my morning departure for the Munich Hauptbahnhof and my train trip to Vienna. I had intended to visit the herbarium in Geneva even before going to Munich but the herbarium was closed for most of the year owing to major renovations. So instead, I visited Geneva in the spring of 2019 when I was in Europe for a conference held in nearby France. I report on that visit at the end of this report.

❖ *Vienna, Austria*

The route to Vienna from Munich is rather direct, passing through a mostly flat lake-filled region and the German town of Altötting as well as the Austrian towns of Anselden and St. Pölten before reaching Vienna about 4 and a half hours later. I did not realize that we would be arriving at the Vienna Meidling Station, a long way to the south of the center of town where the Reiksherbarium is located. I had chosen a hostel near the herbarium and had to catch the underground to the Hauptbahnhof near the center of town. After I found my hostel, I left my bag at the desk and went to the museum. The Natural History Museum is located at Burgring 7, A-1014 and credited with 3,750,000 collections. It is an enormous place with a number of departments but with the aid of several people,

I found my way in and set to work. The **Vienna**



Bruno
Wallnöfer

Herbarium (W) is one of the oldest and finest in Europe but many of its aroid collections were lost during World War II including most of Heinrich Schott's general collections. Schott was the gardener for the Hapsburg Princes and attended their magnificent greenhouse at the Schönbrunn

Palace near the edge of town. Schott was self-taught, very much like Josef Bogner who basically became the world's only authority on Araceae, describing in the end most of the genera and many of the existing species by the time of his death. His legacy is most-preserved by his thousands of detailed drawings and paintings, which are housed at the herbarium. Their general aroid collections are only mediocre now since no one concentrates on aroids there anymore. Many interesting collections have been made in recent years by, **Bruno Wallnöfer**, the Curator of Vascular Plants who works in the Department of Ucayali in eastern Peru. I had already studied and photographed the famous Schott Icones so by the end of the day, I had completed reviewing all of their Neotropical Collection and even the undetermined plants from other regions including Africa and Asia.

❖ *Prague, Czech Republic*

Finishing earlier than expected, I decided to go to Prague early the next morning but I had no time to arrange for lodging there. I caught a train to Prague and was soon passing northwest through the rolling hills of the southern Czech Republic. In April, the fields were all green with new vegetation. It was mostly farm country with winter wheat already 15 cm tall. Arriving in Prague midday, I set out with my rolling bag assuming that there would be many hotels near the station as there often are. I found nothing and decided to find the Herbarium at **Charles University** and get to work. After asking for information back at the station and purchasing some local currency, I headed for the herbarium. It was not too far away but was difficult to find. I had been there years ago after visiting St. Petersburg for the 1975 International Botanical Conference where I got my first experience traveling in the Communist Block. During the middle of the congress on a free day, I took off alone for Moscow. Arriving from an overnight train ride and neither speaking or reading any Russian, I managed to learn the subway system so well that by the end of the day I had ridden most of the lines and popped in and out of subway stations all day to survey what there was to see. Frequently I was asked by the tour group handlers, “where is your guide” but I

usually just walked away quickly so as not be apprehended. Later when traveling from St. Petersburg to Warsaw, I was thrown off the train in Bialstok, Poland near the Russian border for not having my passport. I think it had been kept by a vindictive border official because I refused to purchase the requisite number of Polish zlotys. Since I was stuck in Poland until 3:00 AM when my passport was promised to be returned on the next train, I took the Polish money that I was forced to purchase and went to a restaurant. The ten dollars' worth of Polish money went so far that after drinking several beers and a big meal, I still had piles of money left. Unfortunately, they closed the place early and I returned to the station to await my train, trying to sleep on a small and hard bench. The two German-speaking Polish station workers who helped me when I was first forced to exit the train, said I could sleep on a table in their break room. That was fine until they got off work at about 12:30 PM. They woke up and offered a big glass of vodka. The drinking carried on until the train arrived and I boarded for Warsaw.

My first visit to Prague followed on this same trip. After working at the herbarium in Berlin, I went into the Eastern Zone (the only way to get to Prague in those days) and at the Friedrichshafen Station where they

check passports, the process seemed interminable. When they finally said I was free to go, they did not give me my passport. Since I had to travel to yet another station and find my train, I bolted out. It was not until I was aboard and the train was moving that I realized I did not have my passport. I tried in vain to find the porter, who only arrived as we were rolling into the station on the northern Czech border. I must say that the East Germans were efficient because they reported that my passport would be on the next train even before we had rolled to a stop. Missing your passport was more serious in East Germany than as it had been with the Poles, because I was locked up in a room until my passport arrived. This delay was bad for my schedule though because it meant that at the end of the day I was not able to get to the herbarium I wanted to see. The Herbarium at Charles University was readily available in downtown Prague but when I asked for the National Herbarium, they said that it was a long way away and I could not reach the place in time. It was not until several years later when I visited Prague again in 1991, this time coming from Kiev, that I managed to see that herbarium. I had planned to go by train from Kiev to Prague but we were unable to arrange for a ticket. In desperation, the ticket agent just told me to go get on the train without a reservation. I did and the conductor put me

in the linen closet (really a nice place with a window and a seat) but it enabled me to get to Prague. I nearly got into trouble in the middle of the night when I decided to take a picture of the train rail-changing process where there was a switch from the Russian 5-foot wide tracks to the European 4-foot 8.5-inch tracks. Why that would have been something that they wanted no one to take pictures of, I do not know. That time when I arrived in Prague the next morning, I did find the National Herbarium but it was way out of town in a castle that had been property of the King of Czechoslovakia. I stayed in a nice apartment near a beautiful lake with black swans. The next day in the herbarium, I was told that I had a telephone call which I considered strange since I thought no one, including my wife would know where I was. The person on the phone was a guy named, Giri Haager who asked if I would come see his aroid collection. Since he knew the Curator, apparently the Curator told him that some aroid specialist was at the herbarium. I figured it was a waste of time for me to go visit his collections since a population that had been imprisoned for nearly 40 years would be unlikely to have anything new and exciting, but his collection proved interesting because Haager had been a part nearly a decade going on trips with Czech volcanologists who apparently were experts at predicting when volcanos were

going to explode. Giri (George), now a good friend, had been able to visit Mexico, Venezuela and Ecuador and had brought back many live plants, a lot of them new to science.

The **Charles University Herbarium (PRC)** is located on the second floor of a large old building not far from the main street (Benáška 2/ Prague 2 CZ12801) where I exited the streetcar with my roller bag. There are three staff members who are Curators in the Phanerogamic Herbarium: **Michal Štefánek, Patrik Mráz (Head Curator) and Jiří Hadinec.**



Michal
Štefánek



Patrik Mráz

The herbarium was laden with plants, many of them in unmounted condition. I was assigned a table near the window not far from the aroid collections. One of the first things I did after turning on my computer was to get onto Wi-fi to find a place to stay.



Jiří Hadinec

I had managed to find a hotel in downtown Prague, the Hotel Bologna and made my way there after finishing at Charles University. On my way back to the street, the rattling over the rough stony sidewalks and streets had finally done serious damage to the wheels on my bag and one of them fell completely off so I had to buy another roller bag on my way home.

Before I left the Charles University Herbarium, I was given instructions on how to reach the **National Herbarium (PR)**, the other large herbarium in Prague. It had been moved yet again to another place, so the following day I took a tram to the edge of town, then a bus to a small village where I was given bad advice and walked a kilometer in the wrong direction. Finally, returning to the point of departure I asked again, this time getting good advice so I finally reached the herbarium about 10:00 AM. The National Herbarium which is said to be located at Cirkusova 1740, Praha 9 - Horni Pocernice CZ-190 00 was founded in 1818 and is reported to have 2 million specimens. I was told that I would be unable to see a good deal of the collections because they were not mounted but I was given the



Prague Herbarium



Charles Herbarium

opportunity to determine some of the unmounted collections. Taxonomy has diminished as a discipline, no more so than in Europe where there are so few new species that there is little excitement about taxonomy. Neither of the Czech Republic herbaria in Prague had any new species to be discovered but both have interesting type specimens that I was able to photograph.

❖ *Budapest, Hungary*

On my first visit to Eastern Europe, I was on the quest for the illusive specimens collected by H. W. Schott. It had been reported by an article in *Taxon* that there were Schott collections (at the time all were believed to have been lost in World War II) in the herbarium in Budapest. Since I was already nearby, I decided to go to Budapest to see what I could find. After arriving at the **Hungarian Natural History Museum**, which was located in the middle of a big park, I met the Director, **Júlia Szujko-Lacza** who had written the article about the presence of Schott collections in her herbarium. Still, a thorough search through the herbarium did not turn up any genuine Schott collections but only species that bore Schott's

epithet or herbarium specimens of some few cultivated plants that Schott had identified, but no actual Schott specimens. It had been a proverbial wild goose chase.

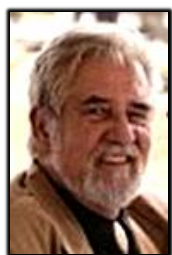
On another occasion in hopes that Adolf Engler, once a professor in Breslau (later Wroclaw, Poland), had deposited his collections there, I contacted a Polish scientist at the XIV International Botanical Conference in Berlin (1987). Unable to make contact with the delegate, **Beata Zagorska-Marek** from Wroclaw University directly, I finally got a note saying that I would be welcome to visit her in Wroclaw. I arrived in Wroclaw and managed to call her number with the help of a stranger who had Polish currency. She did answer and they came to get me. In the middle of the Cold War, we spent the rest of the night talking in their little concrete-walled apartment about the dire situation in which they lived, the possibility that the Solidarity Movement would change Poland and many other topics. We are life-long friends and have revisited each other over the years. The **Wroclaw Herbarium (WRSL)**, which I have visited twice, is curated by, **Krzystof Swierkosz** and was founded in 1821. It has about 500,000



Krzystof
Swierkosz

collections including considerable numbers of Araceae but no new species.

Having finished my work in Prague, I departed the following day for the city of Teplice on the northern



George
Haager

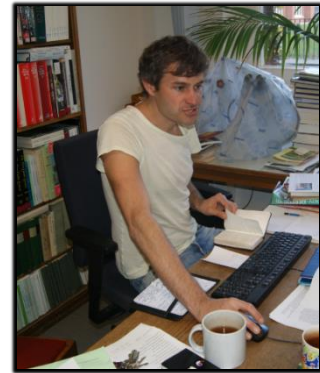
border of the Czech Republic where my old friend, **George Haager** was designing and building a botanical garden. He had already served as Director of the **Prague Botanical**

Garden and had great resources and contacts all over the world. He ended up developing one of the finest botanical collections in Europe. I toured his facilities and I also met, **Ladislav Holy**, a long time correspondent from the Czech Republic who had a big interest in aroids with lots of living collections. After spending the night in George's garden apartment, I took a bus the following day across the border and through a swathe of beautiful countryside to Dresden, Germany. My wife and I had visited the botanical garden only a few years earlier in 2005 after the XVII International Conference in Vienna when George was just beginning to build up the garden and at that time, we had also traveled to Dresden. However, we traveled by train rather than by bus then by train on to Wroclaw, Poland again to visit, Beata Zagorska-Marek whom I mentioned earlier.



❖ *Berlin, Germany*

From Dresden I traveled by train to Berlin to work at the **Berlin-Dahlem Botanical Garden** with its world famous Herbarium (**B**) and large 43-hectare botanical garden. The garden is located at Königin Luise Str. 6–8, D-14195, Berlin. **Nils Köster**, my aroid colleague, met me at one of the suburban stations that lies near the garden took me to the garden's Guest House. I immediately set to work on identifying the very extensive aroid collections. The herbarium, founded in 1815, has more than 3.8 million specimens. Despite the fact that the herbarium destruction of World War II left the Berlin Herbarium without most



Nils Köster



Robert Vogt

of its vast general aroid collections, the type specimens were apparently concealed elsewhere out of harm's way because they mostly survived. What remains is still a remarkable collection since many of the plants are not known from any other specimen anywhere.

The Curator is, **Robert Vogt**, but since I was working again on the weekend, I had to make use of my friends to let me into the herbarium to do my work.

I spent much of the next two days in the herbarium but also spent time working in the greenhouses with Nils and Duban Canal, his student who is working on the phylogeny of *Philodendron*. We went through all the greenhouse collections to make determinations and to discuss problems with some of the more poorly known species. Saturday night we had a nice evening out at a local restaurant. On Sunday, I returned to the herbarium for the rest of the day then on Sunday evening, Nils took me to the bus station for a special bus to go to Vilnius (34 Euros), for the first leg of my trip to Russia. My bus to Vilnius left at about 8:00 PM and by 1:00 AM, we had already reached the Polish capital of Warsaw. By dawn, we had already reached the Lithuanian border and by midday, we were in Vilnius. By this time, it was raining heavily so I decided to go on to Latvia. I spent the rest of the day traveling to Riga, arriving there late in the afternoon. The route from Vilnius to Riga was through mostly low, weakly rolling hills and even swampy marshlands. There were no large towns, mostly small villages and farms. On the other hand, Riga, founded in 1201, was an elegant and exciting city, one built up from the time of the Russian Tsars and even earlier periods when it was controlled by the Germans and also the

Swedes. It declared its independence in 1918 following World War II but soon found itself again under Russian control.

❖ *Tartu, Estonia*

I spent the night in Riga at the Hotel Mosaic in Latvia, then took the bus to Tartu, Estonia the following morning. Tartu, while much smaller than Riga, is the educational center of the Balkan countries with the **Natural History Museum and Botanical Garden** at the **University of Tartu** along with its Herbarium (TU). 38/40 Lai Street Tartu 51005, Estonia. The University was founded in 1632 by King Gustav II when Sweden controlled the area.



Ülle Reier

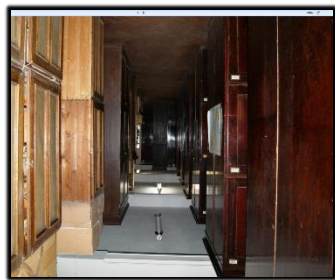
Its' Curator of Seed Plants and Ferns is **Ülle Reier**. She had responded to my email messages and was looking forward to meeting me, showing me the herbarium and its associated botanical garden. The herbarium had largely temperate European specimens of Araceae as well as some really, old tropical collections. The botanical garden is really first rate and has a nice old collection of aroids. At the close of the day, I caught a bus to go north to Talinn, the political capital and the largest city in Estonia. I arrived there just before dark and managed to find the

hostel I had booked. It was near the center of town. Talinn is a small but very old town that has been under some other countries thumb almost all of the years of its existence. First declaring its independence in 1918, it was overrun by the Germans (1941-1944) and later had 5 days of independence before the Soviet Union invaded and controlled it all during the Cold War. Again, it declared its independence in 1991 and became a member of the European Union in 2004.

❖ *St. Petersburg, Russian Federation*

Since the next bus to **St. Petersburg** was not until the following evening, I took a walking tour of Talinn then headed for the bus station to check in for my trip to Russia. The buses in the Balkans are exceptional, modern, comfortable and inexpensive, costing less than \$30 to go between any of the major cities (my bus from Estonia to Russia was only 18 Euros). We crossed into Russian territory not long after we left Talinn. It cost more than 10 times as much to get a Russian visa as it did for the transportation to St. Petersburg. Arriving in St. Petersburg at just after dawn, the bus dropped us off not at a main terminal but rather just along an ordinary street, sort of like the Megabuses operating in the US do. I had arranged for a hotel (mini Hotel Zlatonst-Voeiliova on

Kammenoostousky 19) with an internet service and it was very easy since I had not had to prove that I had a visa. Indeed, it is something you have to do because to get a visa you must tell them where you are going to be staying. I took a taxi to the address indicated for the place I had booked. The place that I booked was called a hotel, but it was more like an apartment building, located not too distant from the botanical garden. As soon as I got my bags in my room, I headed out for the botanical garden



Herbarium in
Peterburg

using the photocopied map I had gotten off the internet and I walked to the garden, which was less than 1 kilometer away. The Herbarium of the **Komarov Botanical Institute of RAS (LE)** has its

St. acronym from when the city was called, Leningrad. I had visited the herbarium before, first back in 1975 during the XII International Botanical Congress, then again in 1991 when I visited Misha Serebryanyi who accompanied me on a train from Moscow and later went with me to the botanical garden in Kiev. The herbarium had not changed at all over the years. The herbarium cabinets are massive wooden cases with doors locked with a big key. The Komarov Institute is an old one, first founded as a botanical garden in 1714 and as an herbarium in 1823. It



Irina Illarionova



Larisa Orlova

is located inside the botanical garden at 2 Prof. Popov Street, Saint Petersburg 197376. It is an herbarium rich in old material on a world-wide basis but its Neotropical holdings are mediocre. The botanical gardens are wonderful and rich in species. **Leonid Averyanov** is the Curator of the Herbarium and **Irina Illarionova** serves as the Collections Manager of Vascular Plants. I was greatly assisted by one of the curators, **Larisa Orlova**, who's work area was near the Araceae. It is good that I arrived during the middle of the week because I was unable to work on the weekend. I spent Saturday looking around St. Petersburg and caught a flight to Helsinki and on to Stockholm on Sunday.

❖ *Stockholm, Sweden*

The flight to Helsinki was interesting because we were not far away and the plane did not get too far off the ground so I had an excellent view of the entire Gulf of Finland from Helsinki to Talinn, which is less than 50 miles apart. Stockholm loomed

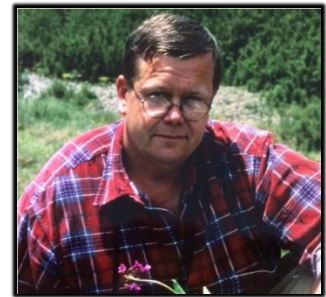


Leonid Averyanov

on the horizon ahead. After a considerable delay in Helsinki, a connecting flight got us to Stockholm by 3:00 PM. The airport is way out in the country and the wait for a bus was long. From the main bus terminal, I had to walk only a few blocks to find the hostel that I had arranged. Again, I was in a room at the City Lodge Hostel near the terminal, which had a number of beds but I had the room completely to myself.

On Monday morning, I took the train out to the main campus of Stockholm University and exited. The **Museum of Natural History** is located a short walk from the University. The Herbarium (**S**) founded in 1758, is one of the finest in Europe and is especially important for me with my strong interest in Ecuador because of its role in the production of the Flora of Ecuador.

The Herbarium's Curator is, **Arne Anderberg**. The herbarium, consisting of separate collections based on geography with the European collections is being housed apart from those of other tropical areas. A long day of work enabled me to finish my review of the material, made easier by the fact that I had made a trip there only a few years earlier after the IV Monocots Conference in Copenhagen in 2008. At the time, I also



Arne Anderberg

visited the herbarium in Göteborg on the other side of Sweden. At that time, I also visited the wonderful botanical garden located near the Göteborg Herbarium as well as the botanical garden in Stockholm near the Natural History Museum. The Herbarium at the **University of Göteborg (GB)**, located at Carl Skotsberg Gata 22B, SE-41319, Göteborg, is an important one, curated by **Claes Persson** who met me there in 2008 when I studied their collections. Persson took over the job of Editor of the Flora of Ecuador after the death of Lennardt Andersson. Since Göteborg no longer has an active field program following the death of **Gunnar Harling**, senior author of the Flora of Ecuador and also his latter co-editor, **Lennardt Andersson**, I concluded that there would be nothing new for me to see there.

❖ *Copenhagen, Denmark*



Olaf Ryding &
Nina Ronsted

The same situation applied for the collection at the **University of Copenhagen (C)** of which I visited at the same time in 2008. Its Herbarium is much older (founded in 1759) and much larger (about 2.5 million collections). **Olaf Ryding** is the Collections Manager and **Nina Ronsted** serves as the

Curator of Vascular Plants. Like Göteborg, it, too was adding almost no tropical American Araceae so I deemed it not worth revisiting after such a recent study there. It is nevertheless an important collection with many types of Araceae since the Danes were important collectors in the New World.

❖ *Aarhus, Denmark*

It was from the Stockholm main railroad terminal on the following day that I took the train to Copenhagen then on to Aarhus. While I had visited Copenhagen Herbarium only a few years earlier, I had not been to Aarhus since August, 1978 when I presented a paper entitled "Distribution of Tropical Araceae" at the Symposium on Tropical Botany at the University of Aarhus. The



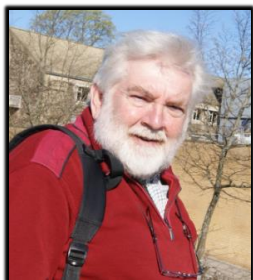
Finn
Borchsenius

Herbarium at the **University of Aarhus (AAU)** has a much more important collection of aroids that those in Copenhagen owing to the former institutions long connection with the Flora of Ecuador. **Finn Borchsenius** is Head of the Herbarium and the Greenhouses at the University of Aarhus. **Birgette Bergmann** is the Manager of the Collections and also plays a role at the Steno

Museum and in the Botanical Garden. For many years, Aarhus provided Curators at the Universidad Autonoma Católica in Quito and many Danes served as Curators there and conducted large collecting operations in the country. While planning my trip to Europe, I had contacted my old friend, **Benjamin Olgaard** who is retired from the university but still doing active research in his office at the university and at the AAU Herbarium. He had invited me to stay with him and his wife, Katrina. I had stayed with them in 1978 during the conference mentioned above when their children were very young and I was anxious to see them again. Benjamin met my train and took me directly to the herbarium where I started determining Araceae. I had seen duplicates of much of their collection since they had sent me specimens on loan over the years as well as material for determination. After a second day and a visit to their living collections



Birgette Bergmann



Ben Olgaard

with Birgette Bergmann, I was ready to head south. I could not no bus service to the other parts of Europe like I found in the Balkans. I arranged for a train to Brussels since I knew that I would be unable to get into the Leiden Herbarium on Friday because it was a

holiday there for some reason. On the other hand, I was certain that with Frieda Billiet's assistance I would be able to work in the herbarium on Friday in Brussels and if necessary over the weekend.

❖ *Meise, Belgium*

The train ride to Belgium took all day with several connections to get to Brussels late that evening. Aarhus is located on the sub-island in western Denmark. The train headed south to Fensburg, Germany, continued on to Hamburg then south to Hanover, west to Munster, south to Dusseldorf and Cologne and finally west to Aachen and finally reached Brussels before dark. I then had to switch to a slow local train to take me out into the SE Brussels suburbs to Limal where Frieda's house is located. Frieda met me at the Limal Station after I gave her a message about my train schedule. Frieda is now retired from the **Brussels Botanical Garden (BR)** but still volunteers there to maintain the plant records so she still has keys to the herbarium. On Saturday, we went to the herbarium which is located in the NE Brussels suburban town of Meise slightly NW of Brussels to study the collection. The herbarium in Brussels is known for holdings of African Araceae but has a lot of Tonduz collections from Costa Rica and some other material from

the Neotropics. The Herbarium's Director is, **Piet Stoffelen** and **Ann Boaerts** serves as Head of the Herbarium. **Frieda Billiet** served for many years as the taxonomist in the living collection and has a strong interest in the taxonomy of Neotropical aroids. On Sunday, we went again to the gardens to visit the living collections. Frieda has a wonderful property that she and her late husband built up from old rundown land with a somewhat collapsed brick building. It is now a most spectacular botanical garden which compares to any home that I have seen. It is always fun to go there.



Piet Stoffelen

❖ *Leiden, Netherlands*



Frieda Billiet

I took the train north to The Netherlands, arriving late in the afternoon in Rotterdam. I was forced to check into a hostel far away from the herbarium because Leiden had no economical lodging available. The place I stayed was really unusual, consisting of a series of isodiametric cubicles, which on the outside looked like a mockup model of a molecule. Inside you could not detect that you were walking through these branches from unit to unit.



Piet Steffelen

The **Leiden Herbarium (L)** was not easy to find. The address I had was out of date because after walking to the ancient botanical garden (billed as the oldest in Europe) where the herbarium used to occur, I was told that the



Christel Shollaardt



Erik Smets

herbarium had been moved to **Naturalis**, a new government organization housed in a very nice and immense building located in the other direction from the Leiden train station. Its address is Naturalis, Vondelloan 55, Leiden 232 AA When I got there, the staff asked around and finally told me that the herbarium was intended to be housed at Naturalis eventually (the move is scheduled for July 2019) but that it was still located in an old factory in the northern suburbs. Getting explicit instructions and the bus number, I set off again, finally arriving at the herbarium about 10:00 AM. The Director of the Herbarium is **Erik Smets** and the Head of Collections is **Christel Shollaardt**. The temporary herbarium is now very complex, being a combination of three national collections, the **Wageningen University** collection of largely African Plants, the **Utrecht University** collection of largely Neotropical and the original **Leiden**

Herbarium, which is largely collections from Asia. Once the entire set of collections are assembled into a modern herbarium, it will be one of the finest and most diverse existing collections. The earliest part of the collection



Simon Wellinga

dates from 1575 so it could be the oldest herbarium in the world. The Neotropical collection is mostly from the Guianas and since I am working on the Araceae treatment for the Flora of the Guianas it is of special interest to me. Studying in this current situation is slow because one has to cart the boxes from the herbarium into a room some distance away where specimens can be observed. I received a lot of help from Herbarium Assistant, **Susana Arias Guerrero**. It was a special treat to run into Anton Cleef, whom I had met at the II International Ecological Congress in Caracas, Venezuela in February of 1973 where I presented a paper entitled, “Geographical Affinities of the Barro Colorado Island Flora”. I did not even recognize him after 43 years



Susana Arias
Guerrero

but knew him well owing to his work with the late Dutch paleontologist, Thomas van der Hammen. Another interesting thing that happened while I was in the Leiden Herbarium was the opportunity to meet, **Simon Wellinga** who had traveled all the way

down from northern Holland with a live plant that he was growing. I had already determined the plant as a new species and he was giving me a live plant to grow.

❖ *Nancy, France*

After two days of work in Leiden, I was prepared to head further south, traveling to Paris then back East to Nancy. The **Nancy Botanical Garden (NCY)** has become one of the most important collections of living Araceae in Europe, in part because of their acquisition of living plants collected by Serge Barrier in Peru and the Guianas, and partly owing to the efforts of **Geneviève Ferry**, their horticulturist who has been working with me in Latin America for the past 15 years. Each time I go there, I spend time describing new species and this trip was no exception.



Geneviève
Ferry

After working in Nancy for two days, it was time to go to the **Paris Herbarium (P)**, which had been completely modernized since my last visit. The herbarium was founded in 1635 and has an estimated 7



Paris Herbarium

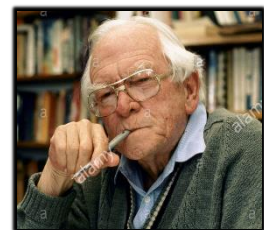


Marc Jeanson

million specimens. It is curated by, **Marc Jeanson**. The collections, once bundled tightly in steel boxes with individual doors, are now housed in open-faced compactors, making study of the collection more efficient. There are now also excellent well-illuminated workspaces. In addition, the collection has been entirely digitized so that online viewing of collections is easy. Geneviève was anxious to go to England and my trip gave her the excuse to go so she came along with me and made my work more efficient by preparing and attaching the annotation labels and fetching and retrieving the bundles of plants from the cases using a tall ladder. Since the herbarium was closed for the weekend, we hurried to finish our work, then took a bus to Reims north of Paris on Saturday. The city is famous for its massive old cathedral where all the Kings of France (except the first king, Clovis) were crowned. On Sunday, we took the train across the channel to Kew and prepared to visit the herbarium the following day.

❖ *Richmond, Surrey, England*

The **Royal Botanic Gardens Herbarium** at Kew is perhaps the world's largest with



Alan Paton



Anna Haigh

an estimated 7 million specimens. It was founded in 1852 and is located near the entrance to Kew Gardens, which also holds the honor of having the world's largest collection of living plants. **Alan Paton** is the Head of Collections in the Herbarium and the aroid specialists at Kew are, **Simon Mayo**, now retired but still working a lot at the herbarium and, **Anna Haigh** who was largely responsible for the creation of the Lucid Anthurium Key. Simon Mayo supervised this project and contracted for Marcela Mora to complete the Lucid Philodendron Key. The Kew Herbarium is always the highlight of my trips to Europe because not only do they have lots of types but have large numbers of general specimens from all over the world and even have substantial numbers of specimens from Latin America, the area that concerns me most. In the past few decades, the majority of the material came from Brazil, an area where I have not collected much owing to the difficulty of getting collecting permits there. Both Ray Harley and Simon Mayo had a considerable interest in Bahia so material from that region is especially interesting. Since Simon Mayo's retirement, Anna Haigh has been responsible for the curation of the Araceae.

❖ *Edinburgh, Scotland*

After two day's work at the Kew Herbarium, we took the train to Edinburgh where we had made reservations for the Hotel Britannia. Since I did not know where the hotel



David Harris

was located, we decided to take our bags with the bus directly to the herbarium of the **Royal Botanic Garden, Edinburgh** at the botanical garden then try to locate the hotel with the internet. The bus took us to the main gate on Inverleith Pl, but we then walked

back to Arboretum Pl and back west to the entrance to the herbarium. The herbarium is curated by **David Harris**. We worked with the collections the rest of the day and printed out a map showing the position of the hotel. Then with the aid of the staff, we figured out how to get there by bus.

The place was only serviced by one bus line and we had to change buses once to get there. The following day we figured that it would be easier to walk to the Garden since in a direct line it was not so far away. Unfortunately, we were a bit confused by the map and spent a lot of time going in the wrong direction. Fortunately, we had gotten an early start so lost little time arriving at the herbarium. That afternoon we visited the magnificent and interesting living collections at the Edinburgh Botanic Gardens, really one of the finest in Europe. I had seen a new

species of *Anthurium* which had been vouchered from the living collection and wanted to find out what it looked like in living condition. The plant records showed that it had been collected in the Colombian lowlands on the Pacific slope, which are rich in species so it was not surprising that it was a new species.

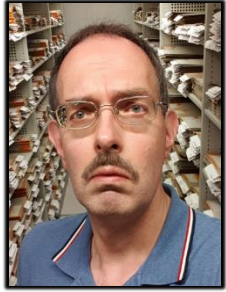
❖ *Geneva, Switzerland*

While to Edinburgh herbarium was the last visited on my large European trip I had failed to visit the very important herbarium in Geneva, Switzerland owing to their temporary closure for remodeling during the course of my visit.



Laurent Gautier

Fortunately, an opportunity arose to visit Geneva during the spring of 2019 after I was invited to present a lecture at a conference in southern France not distant from Geneva. **The Conservatory and Botanical Garden of Geneva (G)** is one of the best in the world and fortunately received no damage to its old collections during any of the European wars. Its aroid collections complement well other large aroid-rich herbaria of Europe including Berlin, and Kew for the presence of old and historic collections. The aroid collections are in a subterranean space with a good work area beneath a sky light. The **Head Curator** at



Nicolas
Fumeaux

the Geneva Herbarium is, **Laurent Gautier**. Fortunately, before my visit the **Curatorial Assistant, Nicolas Fumeaux** had pulled all the relevant material that I would be consulting and stacked it in the comfortable work site beneath the skylight, including material from the DeCandolle and Dellesart Herbaria. I stayed at the Garden's nearby guesthouse restaurant so that the work went efficiently

All in all, the broad range of European herbaria collectively hold many of the important type specimens I needed to consult. As one might have suspected, the European herbaria, more frequently than not possessing older collections, had proportionately fewer specimens of undescribed species largely since aside from Aarhus, Göteborg, Kew, Paris, Stockholm and Utrecht, few have had strong collecting programs in the Neotropics in the recent past or ever. In recent years Florence and Vienna have initiated field programs in the Neotropics but have relatively few new species of aroids. Still, the but the trip had been a profitable one, especially for the opportunity to see many type specimens.