## The spirit collection of the Botanische Staatssammlung München – actively used in teaching and research

Between 1914 and into the 1950s, the botanical institute in Munich included a Museum of Economic Botany that took up the ground floor of the west wing of the building. The Museum officially opened to the public in May 1914, at the same time as the botanical garden. The botanical institute, garden, herbarium, and economic botany museum formed a unit for plant research and teaching that at the time was state-of-the-art. There were also plaster models of flowers and a few fossils, all used in teaching university students. Between 1847 and into the 1950s, large museums of economic botany existed at many botanical research institutions, including the Royal Botanic Gardens in Kew, the Missouri Botanical Garden, in Kolkata, Melbourne, and in Germany at the Botanical Garden and herbarium in Berlin and at the University of Hamburg, where the port was the entry point of numerous plant products from around the world. These museums lost their educational function and fell out of fashion after the second World War, and most have long been dissolved. The last such museum may be the Santos Museum of Economic Botany in Adelaide, which looks today as it looked 130 years ago, when it opened in 1881.



Munich's economic plant museum contained hundreds of samples of pickled flowers, wood, stems and branches, palm fronds, dried fruits with dissections exposing the seed and embryo, and other dried plant parts, such as bark or roots (depending on which part of the respective plant was used). The collection had benefitted greatly from the travels to tropical countries of Karl Goebel (1855-1932), one of Germany's leading morphologists and the first director of the botanical garden in Nymphenburg. A guide to the museum (Schoenau, 1919) contains 16 photos, showing the various displays.

The botanical institute in Munich was not damaged during the WWII. Nevertheless, Munich's Economic Botany Museum suffered the same fate as similar collections elsewhere: Starting around 1955 and until the 1970s, the glass jars and loose specimens were boxed up and transferred to the basement of the building, where they lingered for many years. On 31 March, all boxes were transported to the archives of the Ludwig Maximilians University (https://www.universitaetsarchiv.unimuenchen.de/index.html), where they were opened, sorted, and --after consultation with the herbarium curators—again made available for study.



photo: Sebastian Cramer

The spirit collection is currently housed in a temperature-controlled room in the basement to reduce the impact of UV light. The custom of pickling (preserving) plant parts in alcohol goes back at least to the early 19<sup>th</sup> century. Such preservation chemically stabilizes the cell tissue and completely preserves the three-dimensional structure. An added fixative, such as formaldehyde, inhibits enzymatic and microbial attack. Today, the spirit collection comprises about 1000 vials of various botanical collections, from whole tropical or local plants to flowers or rare monstrosities plus orchid flowers from the greenhouses of the Munich botanical garden collected during the taxonomic and ecological research of Dr. Günter Gerlach.

The collection may be entered by special permission from one of the curators of the herbarium.

## Susanne S. Renner, 17 June 2020

Schoenau, K. von. 1919. Kurzer Führer durch das Botanische Museum in München. München.