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The Otto C. Berg types at the Natural History Museum, Vienna

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Abstract

Over six years and before his premature death in 1866, the German botanist Otto C. Berg described more than 2100 taxa of Myrtaceae, one of the ten richest plant families on Earth. He made the most fruitful contribution to the taxonomy of this family by describing the largest part of its known biodiversity in the Neotropics. The Herbarium of the Natural History Museum of Vienna (W) holds a significant part of the *Herbarium brasiliense*, a seminal collection for Berg's work, currently including the types of 25% of his names. In this contribution, we present a complete, annotated catalogue of O. Berg's Myrtaceae names and nomenclatural types held at W with the purpose of supporting taxonomic work on the group.

Keywords: Myrtaceae, nomenclature, neotropics, *Herbarium brasiliense*

Introduction

The continuous decrease in data storage costs predicted by Kryder's law (Rosenthal *et al.*, 2012) combined with the exponential rise in processor speed (Moore's law) (Moore, 1965), increase in connection speed and the steady advance of mobile devices and wireless connection (Zander & Mähönen, 2013) have led to an unparalleled information boom during the last decade, concerning all fields of human knowledge. In botany, large digitisation projects are making over 300 years of natural history research increasingly available through the Internet, providing access to a huge amount of primary data gathered by botanists during generations, worldwide. This way, the cabinets of natural history where collections used to rest for decades (Krishtalka & Humphrey, 2000) are quickly changing paradigm and becoming dynamic institutions whose data are increasingly available to the general public through large, interactive online databases such as Tropicos (2014, Missouri Botanical Garden), The Plant List (2014, Royal Botanic Gardens, Kew), Global Plants (2014, JSTOR) or Virtual Herbaria (2014, University of Vienna and Natural History Museum of Vienna, Austria). Free access to large natural history collection raw data is essential for comparative studies at two levels, by (i) providing immediate access to voucher specimens on which the principle of priority (McNeill *et al.* 2012) can be documented; and (ii) making available to the scientific community the use of binomials by generations of specialists, uncovering invaluable pieces of often unpublished knowledge in the form of specimen annotations. This way, online data are fostering the stability of the whole nomenclatural system and eventually bringing closer the answer to the question of "how many species are there?". The Herbarium of the Natural History Museum of Vienna (W), with its approximately 5,500,000 herbarium sheets and estimated 200,000 type specimens, is one of the largest botanical collections in the world (unpublished data). By joining the Global Plants Initiative (supported by the Andrew W. Mellon Foundation) our institution is digitizing its type collection, part of which is already freely available on the internet through the website Virtual Herbaria (2014). Following the same principles that inspired the Bouchout declaration (European Commission, 2014), this website offers a collaborative and free tool to other institutions that can choose to join the database using the self-developed software JACQ (2014), an online integral tool for collection management.

During its formation through the XIX Century and before the First World War, the herbarium W gathered through purchases and scientific exchange most of its present holdings (Beck, 1888). Materials include all regions of the Earth but are particularly rich in historical specimens of the flora of South America, Southeastern Asia and the Middle East (Schönbeck-Temesy, 1992). One of the most precious collections held at W is the *Herbarium brasiliense*, product of an extensive scientific expedition to Brazil organized during the years 1817–1835 on the occasion of the marriage of archduchess Maria Leopoldina of Austria to the Portuguese king and later emperor of Brazil Pedro of Braganza (Riedl-Dorn, 2000). The team of botanists was led by the bohemian botanist Johann Christian Mikan and later by the Austrians Johann B. Emanuel Pohl and Heinrich W. Schott, in coordination with the Bavarian Carl F. P. von Martius (Schmutzer, 2007). A large part of the collections of these scientific journey were deposited at the "Brasilianum", or "Brazilian Museum" in Vienna, under the direction of Pohl himself, who had returned from Brazil in 1821 (Feest, 2013). Despite its success in Viennese society, the museum was short-lived and in 1836 was finally closed and the whole collection merged within that of the "Hof-Naturalien-Cabinet", the embryo of what would eventually become the Natural History Museum of Vienna (Riedl-Dorn, 1998). The herbarium of the Natural History Museum in Vienna contains about 40,000 vouchers from the Austrian Expedition