

Karl Koch's Career with Araceae and his Connection with America: Family Photo of Karl Koch Found with Relative in St. Louis

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INTRODUCTION:

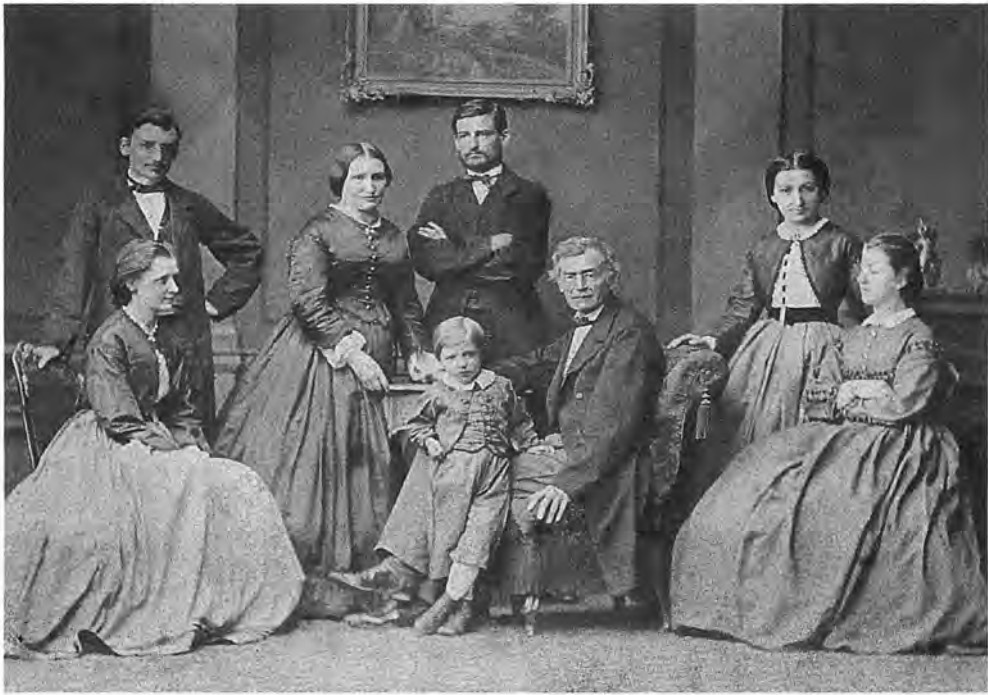
The German Karl Heinrich Emil Koch was born 6 June 1809, near Weimar in the Duchy of Sachsen-Weimar-Eisenbach, and died 25 May 1879. He studied medicine and natural sciences in Jena and in Würzburg. According to a memoir written by Koch's wife, Therese Koch (J. Danzer, pers. comm.), Karl Koch was befriended by the writer, Johann Wolfgang von Goethe, as a young boy, and Goethe encouraged his plant studies. Koch had broad interests including zoology, geology and geography, anthropology, archeology and history but his main interest was with botany, especially horticulture, dendrology and the origin of fruit trees (Edmundson & Lack, 1977).

During the years 1836–1838 and again during 1843–1844, Koch traveled in the Orient in areas that are currently Armenia, Azerbaijan, Georgia, southern Russia, Turkey and Ukraine. He had met Alexander von Humboldt in Berlin and had obtained letters of introduction and some financial help from the Grand Duchess Maria Pavlovna, sister of Czar Nikolai I that enabled him to meet many important Russians to make plans for his expeditions to southern Russia. He was appointed "Traveler on Behalf of His Majesty" and thus enjoyed unusual benefits during his journey (Edmundson & Lack, loc. cit.)

He was a prolific writer and wrote extensive accounts of his travels (Koch, 1842–1843, 1846a, 1846b–1847, 1846c, 1851a, 1851b, 1854a, 1855a) Koch prepared hand-colored lithographic maps of his travels to Eastern Turkey in 1847, which included several versions: geographical, political, ethnographic and a botanical version which represented specific vegetation zones. Though primitive in some respects, the map was actually the first known vegetation map of that region. Koch's maps are very rare and only five sets are known today (Koch, 1850; Edmundson & Lack, loc. cit.).

One taxonomic work was deemed worthy of inclusion in *Taxonomic Literature* by Frans Stafleu (1967), this a 3-volume work on dendrology (Koch, 1869–1873). In addition, he wrote short papers about Araceae, describing many species.

Karl Koch was a contemporary of Heinrich Wilhelm Schott and the two appeared to be bitter rivals, each openly criticizing the other's work. While Schott published his first paper when he was 26, and was 15 years older than Karl Koch, the majority of their publication careers was contemporary. Koch's first publications on Araceae (Koch, 1852, 1856) appear to have shocked Schott (who had obviously been slowly and meticulously accumulating information on Araceae without publishing



Back row (left to right): son Carl Ludwig Constantin Koch (1839), wife Therese Auguste Weichardt Koch (1818), son Hugo August Emil Koch [Jinny Danzer's grandfather] (1840), daughter Therese Marie Adele Koch (1842). Front row (left to right): presumed wife and son of Carl Ludwig Constantin Koch, botanist Karl Heinrich Emil Koch (1809), daughter Anna Helene Cecilie (1845).

it) into publication, and a series of major publications came out in rapid sequence (Schott, 1853–1857, 1858, 1860).

Koch published mostly short articles, sometimes including new species' descriptions, in gardening magazines such as *Allgemeine Gartenzeitung* (1857a–1857i, 1858a, 1858b) and *Wochenschrift für Gärtnerei und Pflanzenkunde* (1859, 1861, 1868; Koch & Veitch, 1863). Other new species were described in the seed lists of the Berlin Botanical Garden (Koch, 1853, 1854, 1855b). Many of Koch's descriptions were based on cultivated plant material, often of unknown origin. Koch's herbarium was acquired by the Berlin Herbarium (B) in 1913 and was evacuated during the war, so it is still extant, but the collection does not contain all of Koch's original collection (Staffeu, 1967). Since Koch was one of the earliest aroid taxonomists,

many of his plant names are still valid, but since most of the species he described were based on cultivated specimens, often even juvenile material (and often of unknown origin), typification of the species is frequently difficult. In all, Karl Koch described or recombined 156 taxa (see Appendix).

At age 26 Karl Koch was appointed Professor at the University of Jena and served there from 1836 through 1847 when he moved to Berlin. There he served as a professor at the University of Berlin and the Berlin Agricultural College and an "Adjunct" at the Royal Botanic Garden in Berlin and also served as Interim Director of the Royal Botanic Garden during the years 1877–1878.

We were prompted to review Karl Koch's career because I met a relative of Koch, living in the St. Louis area. Mrs. Jin-

ny Danzer, a great-great grand daughter of Karl Koch, contacted the Missouri Botanical Garden inquiring about her great-great grandfather and his botanical career. She was directed to us because of Koch's interest in the Araceae, and came in for an interview. Jinny brought with her the family photo taken about 1862 when Karl Koch was 53 years of age and her grandfather was 22. Her grandfather, Hugo August Emil Koch, immigrated to the United States in 1865, when he was 25 years old, and resided in Columbus, Ohio. In 1867, he married Amalia Becker of Columbus, Ohio. He became an American citizen in 1882. Jinny Danzer and her sister, Elizabeth Kellerman, are the daughters of Ernest Ravenscroft and Mildred Graf Ravenscroft. Mildred, the youngest of four children—her older brothers were Hugo (Dick), Fred and Horace Graf—was the granddaughter of Hugo Koch. Her mother was Louise Koch Graf and her father, Fred Graf, a naturalized citizen from Switzerland and an early city planner for St. Louis. Other surviving great-great grandchildren are Kathryn Morrill and Fred Graf (King Graf deceased).

ACKNOWLEDGMENTS

We should like to thank Mrs. Jinny Danzer for making available the picture of her ancestors, for providing additional information and for editing the manuscript. Thanks also to Lynn Hannon for her help in editing the manuscript and to Dr. H. W. Lack for information about Koch's academic career.

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APPENDIX

List of species and new combinations of Araceae by Karl Koch

- Alocasia argyroneura* K. Koch
Alocasia cuprea K. Koch
Alocasia erythraea K. Koch
Alocasia heteroneura K. Koch
Alocasia navicularis K. Koch & C.D. Bouché
Alocasia odora (Roxb.) K. Koch
Alocasia pallida K. Koch & C.D. Bouché
Alocasia undipes K. Koch & C.D. Bouché
Alocasia variegata K. Koch & C.D. Bouché
Alocasia zebrina K. Koch & Veitch
Amorphophallus konjac K. Koch
Anthurium augustinum K. Koch & Lauche
Anthurium boucheanum K. Koch
Anthurium brachyspathum K. Koch & C.D. Bouché
Anthurium cardiophyllum K. Koch & Augustin
Anthurium cordatum K. Koch & Sello
Anthurium costatum K. Koch & C.D. Bouché
Anthurium cymatophyllum K. Koch & Sello
Anthurium elatum K. Koch & C.D. Bouché
Anthurium ellipticum K. Koch & C.D. Bouché
Anthurium fissum K. Koch
Anthurium galeottianum K. Koch
Anthurium galeottii K. Koch
Anthurium laciniatum K. Koch
Anthurium laucbeanum K. Koch
Anthurium lindenianum K. Koch & Augustin
Anthurium martianum K. Koch & Kolb
Anthurium miquelianum K. Koch & Augustin
Anthurium nymphaeifolium K. Koch & C.D. Bouché
Anthurium ochranthum K. Koch
Anthurium polyrrhizum K. Koch & Augustin
Anthurium radicans K. Koch & Haage
Anthurium selloum K. Koch
Anthurium signatum K. Koch & L. Mathieu
Anthurium smilaciforme K. Koch
Anthurium striatum K. Koch & L. Mathieu
Anthurium undulatum K. Koch & C.D. Bouché
Anthurium viride K. Koch & C.D. Bouché
Anthurium wagenarianum K. Koch & C.D. Bouché
Anthurium warscewiczii K. Koch
Arisaema praecox de Vriese ex K. Koch
Arisaema sieboldii de Vriese ex K. Koch
Asterostigma langsdorffii K. Koch
Biarum constrictum K. Koch
Biarum rhopalospadix K. Koch

- Brachyspatha konjac* K. Koch
Caladium bongniartii K. Koch & Fintelm.
Caladium concolor K. Koch
Caladium cupreum K. Koch & Bouché
Caladium enkeanum K. Koch
Caladium gaerdtii K. Koch & Fintelm.
Caladium baageanum K. Koch
Caladium indica hort. ex K. Koch
Caladium kochii hort. ex K. Koch
Caladium laucheanum K. Koch
Caladium marginatum K. Koch & C.D. Bouché
Caladium marmoratum L. Mathieu ex K. Koch
Caladium myriostigma K. Koch
Caladium odoratissimum hort. ex K. Koch
Caladium pallidum K. Koch & C.D. Bouché
Caladium picturatum K. Koch & C.D. Bouché
Caladium plumbeum K. Koch
Caladium porphyroneuron K. Koch
Caladium pusillum K. Koch
Caladium rubellum K. Koch & Fintelm.
Caladium smaragdinum K. Koch & C.D. Bouché
Caladium splendens K. Koch & Fintelm..
Caladium stangeanum K. Koch
Colocasia euechlora K. Koch & Linden
Colocasia navicularis K. Koch & C.D. Bouché
Colocasia prunipes K. Koch & C.D. Bouché
Cyrtospadix K. Koch
Cyrtospadix striatipes (Kunth & C.D. Bouché)
Dieffenbachia lineata K. Koch & C.D. Bouché
Dieffenbachia robusta K. Koch
Dracontium asperum K. Koch
Dracontium wallisii K. Koch
Gonatanthus cupreus hort. ex K. Koch
Massowia K. Koch
Massowia cannifolia K. Koch
Massowia canniformis K. Koch
Massowia friedrichsthalii K. Koch
Massowia gardneri K. Koch
Massowia heliconiifolia K. Koch
Massowia lanceifolia K. Koch
Massowia lanceolata K. Koch
Massowia marginata K. Koch
Monstera acuminata K. Koch
Monstera borsigiana K. Koch
Monstera dilacerata (K. Koch & Sello) K. Koch
Monstera lennea K. Koch
Monstera tenuis K. Koch
Philodendron albouvaginatum K. Koch & Sello
Philodendron asperatum K. Koch
Philodendron augustinum K. Koch
Philodendron cardiophyllum K. Koch & Sello
Philodendron crinipes hort. ex K. Koch
Philodendron cuspidatum K. Koch & C.D. Bouché
Philodendron erubescens K. Koch & Augustin
Philodendron bastatum K. Koch & Sello
Philodendron latifolium K. Koch
Philodendron latipes K. Koch & Augustin
Philodendron lingulatum (L.) K. Koch
Philodendron micans K. Koch
Philodendron microphyllum K. Koch
Philodendron pinnatifidum var. *virescens* K. Koch
Philodendron pterotum K. Koch & Augustin
Philodendron sauerianum K. Koch
Philodendron scandens K. Koch & Sello
Philodendron schottii K. Koch
Philodendron selloum K. Koch
Philodendron simsii hort. ex K. Koch
Philodendron tenue K. Koch & Augustin
Philodendron warszewiczii K. Koch & C.D. Bouché
Pistia turpini K. Koch
Rhaphidophora dilacerata K. Koch
Sauromatum asperum K. Koch
Sauromatum punctatum K. Koch
Scindapsus dilaceratus K. Koch & Sello
Spathiphyllum lanceolatum (K. Koch) K. Koch
Staurostigma concinnum K. Koch
Staurostigma luschnathianum K. Koch
Staurostigma pavonii K. Koch
Staurostigma tweedianum K. Koch
Staurostigma vellozianum K. Koch
Stuednera K. Koch
Stuednera colocasiifolia K. Koch
Urophyllum K. Koch
Xanthosoma atrovirens K. Koch & C.D. Bouché
Xanthosoma atrovirens var. *hybridum* K. Koch
Xanthosoma atrovirens var. *versicolor* K. Koch
Xanthosoma belophyllum var. *caracassanum* (Schott) K. Koch
Xanthosoma caracu K. Koch & C.D. Bouché
Xanthosoma hastifolium K. Koch
Xanthosoma ianthinum K. Koch & C.D. Bouché
Xanthosoma pilosum K. Koch & Augustin
Xanthosoma sagittifolium K. Koch
Xanthosoma undipes (K. Koch & C.D. Bouché) K.
Xanthosoma utile K. Koch & C.D. Bouché
Xanthosoma xanthorrhizon (Jacq.) K. Koch
Zantedeschia alba K. Koch
Zantedeschia asperata (K. Koch) K. Koch
Zantedeschia calyprata (Roxb.) K. Koch
Zantedeschia cordata K. Koch
Zantedeschia foetida K. Koch
Zantedeschia rubens K. Koch
Zantedeschia virosa K. Koch