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GUTIÉRREZ OF *GUTIERREZIA* (ASTERACEAE: ASTEREAE)

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ABSTRACT

Mariano La Gasca y Segura, known as Lagasca, named a southwestern North American plant *Gutierrezia* without recording who he was honoring. The association of Lagasca with Pedro Gutiérrez Bueno, a leading chemist and pharmacist in Madrid at the same time that LaGasca was director of the Royal Botanical Garden there, makes it likely that Gutiérrez Bueno was the intended honoree.

The genus *Gutierrezia* was clearly named for Gutiérrez, but who was Gutierrez? Nesom in *The Flora of North America* (2006) wrote "Possibly for Pedro Gutierrez, Spanish nobleman, not specified by Lagasca." Fernald (1970) wrote "Named in 1816 for Pedro Gutierrez, correspondent of the botanical garden in Madrid." Seeking dates for the life of Pedro Gutierrez, I found Pedro Gutiérrez Bueno (1745-1826), who seems likely as the person honored by Lagasca.

Gutiérrez Bueno was a well-known apothecary, chemist, and pharmacist in Madrid. Born April 28, 1743, at Cáceres, he studied at the Royal Studios of San Isidro (*Los Reales Estudios de San Isidro*) and was admitted to the Royal College of Apothecaries in Madrid. He opened an apothecary shop there in 1777. In 1785, he was appointed professor of chemistry at San Carlos College of Surgery in Madrid and in 1787 received an appointment to the Museum of Natural History (*el Real Gabinete de Historia Natural*). In these roles he recognized the need for better textbooks and so wrote them. The first edition (in 1782) of his book, *Un Curso de química, teórico y práctica, para la enseñanza del Real Laboratorio de Química de esta Corte*, taught the traditional view of chemistry, in particular that phlogiston was responsible for burning and rusting. The new edition of his textbook (in 1788) taught Lavoisier's theory of oxidation, using new terms such as oxygen and hydrogen. In addition, Gutiérrez Bueno translated the latest French papers and incorporated their ideas into Spanish chemistry at least two years before those works were available elsewhere in Europe.

In 1792 Gutiérrez Bueno was appointed the chief apothecary of His Majesty Charles VI, which gave him intellectual control of how chemistry was taught at the Ministry of State, one of the three major laboratories in Spain. His prestige — he was probably the most eminent chemist in Spain in the last decade of the 18th century — and his much-reissued books led to rapid support of modern chemical ideas in Spain.

These conceptual changes were denounced by phlogiston supporters, led by Gutiérrez Bueno's former mentor, José Viera y Clavijo (1731-1813), with the result that all three major chemistry laboratories were closed. They reopened as the Royal Laboratory of Madrid in 1799 under Joseph Louis Proust (1754-1826) with a modern curriculum.

Despite the upheaval, Gutiérrez Bueno retained his chair in chemistry in the College of Surgery at San Carlos and in 1804 became director and professor of the newly created College of Pharmacy of Madrid. He retired in 1815 and died in Madrid on May 11, 1822.

Gutiérrez Bueno's writings ranged from studies of the production of gunpowder to dye manufacture. Generally, his papers incorporated information on the chemical composition of the materials and the chemical processes involved, whether the source was mineral or vegetable (inorganic

or organic in our terminology), and ranged from applied science to medicine. In the history of Spanish chemistry, he is central to the modernization of chemistry and remarkable for so quickly changing his views to embrace modern chemistry.

The namer of the genus *Gutierrezia*, Mariano La Gasca y Segura (1776-1839), known as Lagasca, studied medicine in Zaragoza and botany in Valencia. After moving to Madrid in 1800, he studied botany and medicine with Antonio José Cavanilles (1745-1804), a well-known botanist and physician. Lagasca became a professor at the University of Madrid and was a vice-director of the Royal Botanic Garden in Madrid under Cavanilles. In 1807 he was appointed director of the Royal Botanical Garden (TheBiography 2018). He named *Gutierrezia* in 1816 from a specimen collected by the Sessé and Mociño expedition in 1787-1803 in Nova Hispania (Mexico into the southern USA) (Schneider 2019; JSTOR).

I cannot directly link Lagasca to Gutiérrez Bueno. However, in the first two decades of the 19th century both men were leading members of the scientific community in Madrid. Gutiérrez Bueno was an apothecary, pharmacist, and chemist. Lagasca was a physician and botanist. Lagasca's publication appeared in 1816, the year after Gutiérrez Bueno's retirement. Lagasca did not specify the Gutiérrez for whom he named the plant: it may have been too obvious.

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