



## Ludwig Döderlein's Pioneering Research on Echinoderms, Ecology and Evolution: A brief historical review\*

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### Abstract

The German zoologist and paleontologist Ludwig Heinrich Philip Döderlein (1855–1936) was one of the foremost echinoderm researchers of his time. Self-taught in many subjects of natural science, he rose from provincial obscurity to international fame. We present some aspects of: a) his life history; b) his echinoderm research; c) his contributions to ecology and evolutionary biology, with the coral genus *Fungia* as an example; and d) his achievements in building up and promoting biological collections. The latter is illustrated by the Bavarian State Collection of Zoology, being second only to the Zoological Museum of Strasbourg in the diversity of Döderlein specimens that survived the perils of two world wars.

**Key words:** history of sciences, Ludwig Döderlein, biography, Germany, Strasbourg

### Biographical Introduction

Döderlein was born on March 1855 in the village of Bergzabern in the Palatinate. He went to school in Bayreuth, both places belonging at that time to the Kingdom of Bavaria. After Alsace was confiscated by Prussia in the aftermath of the Franco-Prussian war (1870–1871), Döderlein became a school teacher in the Alsace town of Mühlhausen (Mulhouse), where he met Kenji Oosawa (1852–1927), a Japanese student of medicine and physiology who was enrolled at the University of Straßburg (today Strasbourg). Oosawa mediated the invitation of Ludwig Döderlein to Japan, where he became Professor of Natural History in the Medical Department of the newly founded University of Tokyo (summarized from Scholz & Nishikawa 1999; Scholz & Lang 1999; Scholz 2006). Döderlein stayed in Japan for two years as an “oyatoi (=employee) gaikokujin (=foreign)” professor. He started collecting animals and plants early in 1880, immediately after his arrival in Japan (Fujita 2008; Namikawa 2009).

Döderlein was the first to recognize that Sagami Bay is exceptionally rich in marine fauna. This relatively small bay (ca. 2,700 km<sup>2</sup>) immediately south of Tokyo is a world-famous area, for many