

## **Natural history, names, nomenclature. The significance of name giving exemplified by the discoveries of Ludwig Leichhardt and Adelbert von Chamisso**

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In the first half of the 19th century two great adventurers explored the globe. One travelled on foot, the other by ship. Both were from Germany and eager to discover the unknown. They had studied many fields however, without obtaining a university degree. Their enthusiasm for the expeditions of Alexander von Humboldt was immense. Both had also met him in person. Ludwig Leichhardt and Adelbert von Chamisso (1781–1838) had in common not only a special interest in natural studies, but also an insatiable curiosity of the strange and of the wilderness.

The *Systema naturae* Carl von Linné called his important and partly still valid work of 1735. It is a system of nature consisting of three main divisions: the plant kingdom, the animal kingdom, and the mineral kingdom. Accordingly, this tripartition of nature appears in the diaries and travelogues of research expeditions around 1800. Naturalists of this time such as Leichhardt and Chamisso were learned in all three areas and often also in human medical anatomy. For scientific classification as well as for the geopolitical stocktaking in this era of the great expeditions, designating the discoveries was playing an essential role.

The naming of newly described botanical or zoological species as well as of mountains, islands, rivers or other areas by the European travellers had a marking function similar to a branding: They branded and marked the rivers they crossed, the earth they walked upon, and the creatures they firstly admired. The mapping of the globe and capturing of its plants and animals were typified by the collecting character of the developing sciences since the 18th century and embossed by the naturalists and travellers moved by different motives for the choice of names. The designation (name) carries an inherent information about the expeditions and their circumstances (places, routes, people, situations), as well as about the designators themselves. This connection will be illustrated using the naturalists Leichhardt and Chamisso as examples.

Chamisso took part as a naturalist on the second Russian circumnavigation in the years 1815–1818 under the leadership of Captain Otto von Kotzebue. In honour of Leichhardt, plant and animal species were named after him and this also happened to Chamisso. There are plant and animal genera with the name *Leichhardtia*, such as the bush banana *Leichhardtia australis*, the cypress *Leichhardtia macleayana* or the ram's-horn snail *Leichhardtia sisurnius* as well as plant genera named in honour of Adelbert von Chamisso: *Adelbertia*, *Chamissonia*,

*Chamissoa*, and *Chamisomneia*. This can also be reflected in the species name which stands second such with the snail *Helix Leichhardtii*, the plants *Eucalyptus Leichhardtii*, *Vanilla Chamissonis*, *Ambrosia Chamissonis*, and the snakes *Orophis Chamissonis* and *Coluber Chamissonis*.

Nevertheless, this naming deceives the unknowing because these species were not firstly described and published by the naturalist whose name they carry. The naming occurred by the naturalist who delivered the first official publication of the species description. Therefore, the Californian poppy *Eschscholtzia californica* was described by Chamisso but named in honour of his friend Johann Friedrich Eschscholtz, the ship's doctor at the expedition. Eschscholtz in turn, named the beetle *Carabus Chamissonis*, after his friend Chamisso.

In fact, only one plant species is known to be firstly described and published by Leichhardt that is *Tribulus minutus*. His findings were therefore evaluated later by other scientists. Many species of Australia were firstly described in his notes, remained however unnamed. An example is *Leichardt's Grasshopper* named *Petasida ephippigera* by Adam White in 1845. Likewise Leichhardt's thorn apple *Datura Leichhardtii* which he described in his diary as “the most interesting plant“, whose official description was published later. Other examples are the description of the domestic tobacco *Nicotiana megalosiphon*, or the tabacco named after Georg Forster *Nicotiana forsteri*.

However, the Australian bustard, a bird called *Otis novaehollandiae* has actually been named by Leichhardt. This name includes information about the habitat of the bird, namely New Holland (Australia) referring to the colonial background. This form of information storage is also found with Chamisso. Thus, the following specific epithets in plant names include local designations: *aleutica* (Aleutian Islands), *unalaschkensis* (Unalaska), *marianensis* (Mariana Islands), *owaihiensis* (Hawaii), and others such as *americanus*, *arctica*, *brasiliensis*, *philippensis*, *luconiensis*. These names tell us something about the habitat of the species, the place where it was collected, and help in reconstructing the route of expeditions that may have taken place. Chamisso also used names of people including respected naturalists and world travellers such as Ledebour and Cook, participants of expeditions such as Schischmareff and Kotzebue, as well as names of people from indigenous populations such as King Kamehameha I. of Hawaii, the leader Rarik, or Chamisso's friend Kadu.

Leichhardt's special gesture was connecting the designation of geological or geographical discoveries with people who had accompanied him or supported his expeditions. Thus, most rivers and mountains named by him have a simple genitive construction: *Brown's*

*Lagoons, Scott's Peak, Roper's Peak, Macarthur's Peak, Gilbert's Dome, Gilbert's Ranges, Charley's Creek* or even more simply: *Dawson River, Lynd River, Mackenzie River, Gilbert River, Wilton River, and Calvert River*.

Interesting and especially unusual becomes Leichhardt's naming when it illustrates connections which apparently do not seem to fit: Like with *Comet Creek*, a connection between a geological form and a meteorite from space, because he had just seen a comet, and *Dried-beef Creek*, a connection between the preservation of food by drying (!) with fluent (!) waters. Equally unusual is the name *Christmas Ranges*, mountains which the group intended to have reached by Christmas. Also, one stops short at seemingly usual connections, such as *Snowdrop's Creek*, where the name suggests little white flowers growing at a river. Not only are there no snowdrops in Australia, but also one can discover that "Snowdrop" was the name of a bullock, that was slaughtered and eaten with much pleasure.

While Chamisso published his expedition results over several years and got recognition as a naturalist in the scientific community of Europe, Leichhardt preferred to impatiently head into the wilderness again – until he disappeared in 1848.

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