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1 **Straight-washing ecological legacies**

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To the Editor – Scientists are human, and scientists are diverse. But this diversity is nothing unless people can be themselves while practising science (*Mattheis, De Arellano & Yoder 2019*). This should extend to acknowledging ‘hidden’ diversities of the scientists that changed our understanding of the world. This is important not just for historical accuracy, but also because it provides role models for today’s diverse scientific communities.

The 18<sup>th</sup> century scientist, Alexander von Humboldt, was one such scientist. He was a founder of geography and ecology; his expeditions across the world gave rise to biogeography, and he showed the "connectivity of nature" (*Wulf 2015*). He was one of the first physical geographers, linking exploitation of nature and damage to ecosystems. This is the 250<sup>th</sup> anniversary of his birth, and *Nature Ecology and Evolution* rightly celebrated his achievements through an editorial and a collection of papers which "...look back over his life and compile a collection of articles inspired by his legacy." However, in highlighting aspects of Humboldt’s personal life, but simultaneously excluding his well-documented infatuations and attractions to men (*Wulf 2015*), the editorial perpetuates a culture of ‘straight-washing’. Whether this is deliberate or not, it divorces von Humboldt’s real self from his science, hiding the queerness of an important scientist. We write to highlight the importance of teams of diverse people, and the need to have visible role models to increase retention of under-represented groups in the sciences.

Ecological studies underpin our understanding of ecosystem function and ecosystem services. Reflecting von Humboldt’s working methods, ecological research is now undertaken by teams of people working together, from many countries and cultures. Diverse groups tend to be more objective and attuned to solving problems than homogenous ones (*Apfelbaum, Phillips & Richeson 2014*). Mere representation is insufficient, though. People must be able to be themselves in their work. However, queer scientists feel they must downplay their sexual orientation or gender identity at work (*Mattheis, De Arellano & Yoder 2019*), and they consistently report more negative experiences in the workplace than their straight co-workers (*Cech & Pham 2017*). This can lead to scientists leaving STEM disciplines altogether (*IOP 2019*). Role models are an effective way of encouraging queer people to be authentic in science, and we should celebrate that Alexander von Humboldt found love with the men who accompanied him on his expeditions. Without that support, he may never have turned into an eminent ecologist and geographer. If we don’t acknowledge the diversity of humanity, including scientists, science itself will be less inclusive, and less successful in tackling issues central to our world.

Further, truly being ourselves as scientists offers the opportunity to transform our scientific identity, our methods and through social action, inspire and give back to others (*Ochu 2018*). Here, we take the opportunity to not only point to wider LGBTQI+ STEM platforms, such as 500 Queer Scientists (<https://www.500queerscientists.com>), LGBTQ+ STEM (<https://lgbtstem.wordpress.com/>), and Pride in STEM (<https://prideinstem.org/>) but also encourage reflection on the overlaps between environmentalism, colonialism and the practices of history that Humboldt’s writing can also inspire (*Sachs 2003*).

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99 **Competing interests**

100 The authors declare no competing financial interests. The authors Mackay, Giles and Ochu are  
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