

## **“Barbara Baehr: Science as exploration and discovery”**

Robert Whyte

Leichhardt loved this ancient landscape. He loved it with wonder and awe, with empathy and with a deep longing to wholly integrate into this remote, strange and beautiful terrain. He got his wish, merging with the dreaming in a way no other whitefella has quite matched, though many have tried. His keen inquiring mind and remorseless determination has been the spark for countless others who have followed, tracking his trails like dots of ochre and umber across the brigalow and desert, through canyons and rainforest, across grassy plains and along parched riverbeds sighing for moisture under giant gums.

Stretch out your arms slowly till your fingertips touch the horizon on all sides, hear the creak of the soft wind, feel the force of the sun and the stirrings of life unfolding to drink its energy. Feel the night sweep down. Watch the stars whirling overhead, layer upon layer of constellations and galaxies. This is as close as you can get on this planet to feeling the immensity of space.

The British didn't get it. They could follow the Condamine River from its source on the western slopes of Mount Superbus and see only sheep, cattle and crops filling pastures. Nothing about the natural landscape made any sense to them at all. Charles Darwin himself, only four years older than Ludwig Leichhardt and normally so astute and perceptive, was confused. He couldn't grasp the concepts of landscapes shaped by fire.

One of the key players in the recent Leichhardt symposia, biological and cultural programs was Dr Barbara Baehr, an internationally recognised research scientist and spider taxonomist. Barbara has made a major contribution to the discovery of biodiversity, describing 600 new spider species – most of them from Australia. Working from her base in the Natural Environments Program, Queensland Museum, and connecting with key figures on the German side of the bicentennial event, including the living Ludwig Leichhardt, great nephew and ardent student of his famous scientist-explorer ancestor, Barbara drew together many strands of interconnected discovery into the Leichhardt Issue of the Memoirs of the Queensland Museum, published for the occasion.

Like Leichhardt, Barbara is an extraordinarily gifted natural scientist, an explorer of the vast uncharted territory of the often overlooked and barely understood. Barbara fell in love with Australia even before leaving Germany, by reading of Leichhardt's expeditions. For Barbara it was a new frontier: invertebrate fauna.

Barbara and her husband Dr Martin Baehr, a beetle taxonomist, came to Australia for their honeymoon. But this was no resort holiday lazing by the pool, this was an outback trek through some of the most remote territory of north and western Australia, pitching a tent beside the hired car, discovering new species.

As they revisited the sites and paths of Leichhardt's explorations and aspirations, they, like many others beginning to understand the immensely biodiverse and ecologically critical invertebrate fauna, began to uncover layer after layer of missing biological information. It was as though Leichhardt's expeditions gave us the first sketch maps of the unknown and we are only now beginning to fill in some of the details.

Leichhardt was a great scientist. If he were alive today he would have loved nothing more than to travel alongside Barbara Baehr into the unknown world of microhabitats, where a 10 m square patch of rainforest canopy can yield more species than were described in the first 100 years of European settlement.

We are at the beginning of a new age of exploration. Ninety-seven per cent of Australian species are not those which are large and obvious, like the kangaroo, the kookaburra and the wedge-tailed eagle. Or even large and not obvious, like the platypus. The second Governor of New South Wales, Captain John Hunter, sent a sketch and a Platypus pelt to London in 1798. The parcel was dismissed as a hoax, scientists believing somebody had sewn a duck's beak onto the body of a beaver. This is how strange and incomprehensible Australia was to the Europeans.

But Leichhardt knew the platypus because he connected with Aboriginal people, learned their languages, discovered names they had for plants and animals, rocks and landscapes, wrote these names down and integrated Aboriginal use and knowledge into his descriptions.

Leichhardt would have been excited by photography and thrilled with close-up macro images of tiny things. He would have been amazed and delighted by the Internet, and how it can connect scientists, enthusiastic amateurs, artists and historians – anywhere in the world, in an instant.

Barbara continues to explore Australia in the spirit of Leichhardt. As managing Editor of the Leichhardt Issue of the *Memoirs of the Queensland Museum*, she organised the publication of 16 new species and two new genera named in honour of Ludwig Leichhardt in an enormous tribute containing a total of 123 newly named species.

The Leichhardt species were all discovered in Australia, mainly found in Queensland where Leichhardt conducted his most successful expedition from Brisbane to Port Essington

in 1844-1845. They include one new fish species, two new fish genera and species from the Lower Cretaceous, two new snails, three new leaf hoppers, a new thrips genus and species, seven new beetles – and from Barbara's own special field, 86 new goblin spiders. Barbara's colleague Dr Robert Raven contributed a new swift spider genus, *Leichhardteus*, eight new swift spider species and five new prodidomids, these all being collected on an expedition to the Gulf of Carpentaria, one of the sites of Leichhardt's most celebrated expeditions from Queensland to the Northern Territory. To this add a pseudoscorpion species from the Warrumbungles in New South Wales, two new mites, two new millipede, a new flatworm and a new earthworm.

But this is barely the beginning. We need to know so much more about life on this planet to begin to understand its hidden mysteries.

Please take a moment now to remember and cherish Leichhardt for his love of nature and insatiable curiosity.

*Robert Whyte* is an honorary researcher in arachnology at the Queensland Museum, having developed an interest in spiders with the encouragement of arachnologist Robert Raven. He has participated in four Bush Blitz biodiversity expeditions in remote parts of Western Australia and the Northern Territory. He is an accomplished editor, author and journalist, with skills in photography and publication design.