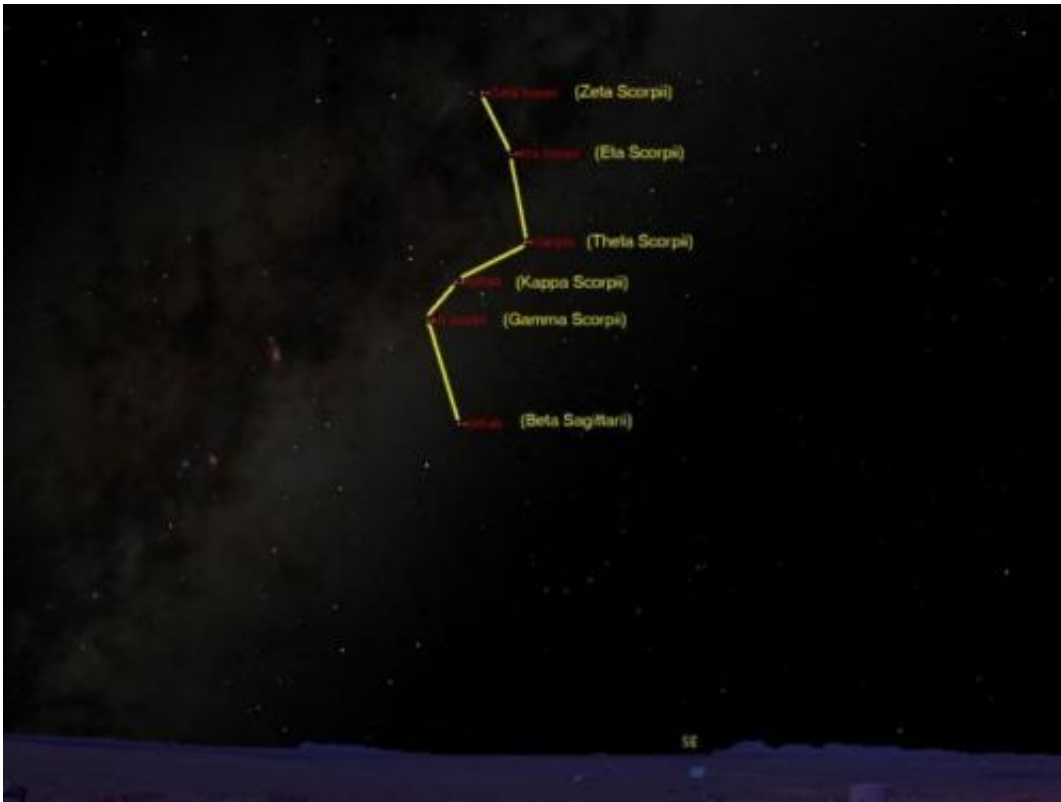


# Aboriginal language groups' use of star maps studied

July 14 2014, by Nancy Owano

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Goodooga to Carnarvon Gorge star map (image courtesy of Starry Night Education) Credit: arXiv:1406.7456 [physics.hist-ph]

Professor Ray Norris of the Commonwealth Scientific and Industrial Research Organization (CSIRO) and colleagues from Macquarie University have researched the use of stars and constellations by certain groups. According to the Australia Broadcasting Corporation (ABC), the

research was reported in the *Journal of Astronomical History and Heritage*.

The ABC report provided a live link, which goes to the arXiv site, where the authors submitted their paper on June 29, titled "Star Maps and Travelling to Ceremonies—the Euahlayi People and Their Use of the Night Sky." Among the authors, representation includes the Department of Indigenous Studies at Macquarie University, Euahlayi Law Man, and CSIRO Astronomy and Space Science. Fundamentally, their research, [said the ABC](#), documents how people from two language groups the Euahlayi and Kamilaroi people, in north-central New South Wales and south-central Queensland use star maps to teach travel routes based on songlines. Do all Aboriginal people use the [stars](#) for navigation at night? The authors stated that "We have shown that while many Aboriginal cultural groups have a rich knowledge of the night sky, this does not necessarily mean that they all use the stars and night sky for actual navigation."

Norris told the ABC that in the process of speaking to a man relaying traditional stories, the team discovered a "fantastic store of knowledge about how people navigated." A key discovery in their research is that the Euahlayi and Kamilaroi people, who did not travel extensively at night, had no use for the night sky as a knowledge tool. The authors present a different story. They wrote: "They used "star maps" in the night sky for learning and remembering waypoints along their routes of travel, but not for actual navigation." They instead used star maps as a teaching device in advance of travel, via songlines.

The stars were not direction pointers, as much as pre-travel reminders of where songlines go. "For the Euahlayi, and for the Kamilaroi and neighbouring language groups," said the authors, "there was another way to use the stars for travelling which was not a form of navigation by the stars. This was the use of patterns of stars ("star maps") to teach people

how to travel in and outside of their country. Knowledge in Aboriginal culture is transmitted orally, so this technique could be considered a memory aid to assist in teaching, and as a reminder for future travel."

Songlines are about singing where you've been, a recreation of a given landscape. In Aboriginal groups, songlines have been found to cross a vast landscape linking important locations and land features. Prof. Norris said in the ABC report that the links between songlines and star maps became evident in their research.

He said it has been known for some time about Aboriginal peoples' songlines describing the features of the land and it has also been known that some Aboriginal groups use the stars as a compass. "But then" he said in ABC, "people talk about these journeys that you can see in the sky but it's never quite clear about how that maps onto the songlines on the ground." Now, for the first time, he added, "we are actually hearing the details of how this actually works." In some cases, said Norris, people identify places on the ground with places in the sky. "We've never been able to map one onto the other like this before."

As for future study, the authors said, "Further research on the use of star maps for travel by other language groups, particularly those who might have met the Euahlayi peoples at common ceremonial locations, may lead to a clearer understanding of the Aboriginal use of the [night sky](#) for travel."

The current population of people identifying as Kamilaroi and/or Euahlayi ancestry is approximately 29,000, estimates from Kamilaroi Nation Applicant Board, said the authors.

**More information:** Star Maps and Travelling to Ceremonies—the Euahlayi People and Their Use of the Night Sky, arXiv:1406.7456 [physics.hist-ph] [arxiv.org/abs/arXiv:1406.7456](https://arxiv.org/abs/arXiv:1406.7456)

**Abstract**

The Euahlayi people are an Australian Aboriginal language group located in north-central New South Wales and south-central Queensland. They have a rich culture of astronomy, and use of the night sky in resource management. Like several other Aboriginal peoples, they did not travel extensively at night, and so were assumed not to use the night sky for navigation. This study has confirmed that they, like most other Aboriginal groups, travelled extensively outside their own country for purposes of trade and ceremonies. We also found that, previously unknown, they used star maps in the night sky for learning and remembering waypoints along their routes of travel, but not for actual navigation. Further research may find that this was common to many Aboriginal groups in Australia.

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