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# AUSTRALIA Nature

AUTUMN 2000

## ROCK RINGTAILS

**MAGPIE  
GEESE**

**SEX  
BUTTERFLY  
STYLE**

**BUFFALO  
BREAM**

**THE ORIGIN  
OF LIFE ON  
EARTH**

**Free  
Butterfly  
Poster**



AUSTRALIAN MUSEUM





## X Marks the Spot

**Ö**tzi, the frozen mummy retrieved from the Alps in 1991, continues to teach us about life in Europe 5,200 years ago. The latest revelations come from tattoos on his body, which have been interpreted as the world's earliest evidence of needle acupuncture.

Tattoos are made by piercing the skin and applying pigment in the wound. Leopold Dorfer, Maximilian Moser

(University of Graz, Austria) and colleagues recorded 15 groups of blue-tinted tattoos on Ötzi's back, knee, calf, foot and ankle, with no apparent ornamental significance. They had a simple linear geometric pattern (parallel sets of lines and crosses), and were on parts of the body that would not normally be displayed. (Other marks on the left wrist have been interpreted as traces left by a wrapping to protect his arm during archery.) When the researchers compared the locations of these tattoos with traditional Chinese acupuncture points, they found that most of the sites overlapped. Several tattoos, including an X-shaped tattoo on the left ankle, corresponded with acupuncture points used for the treatment of arthrosis of the lower spine, a disease from which Ötzi was known to suffer. Others, including a cross on Ötzi's inside right knee, corresponded with points used to treat abdominal disorders. Indeed, Ötzi had numerous intestinal parasites, and his colon was a quarter full of

charcoal (a common cure for diarrhoea still used today).

Assuming no coincidence and that the tattoos were indeed used as acupuncture points, this pre-dates Chinese acupuncture records by 2,200 years and could indicate either independent invention of the treatment method or early cultural exchange between Europe and East Asia. It could also mean that tattoos had their origin in body maps and medicine, rather than body art. Having diagnosed the illness, a pre-historic doctor could have marked the acupuncture spots for future reference, as a permanent medical record for himself, other carers, or even his patient. Could Ötzi have done it to himself? Konrad Spindler (University of Innsbruck, Austria) noted that among Ötzi's tools was a bone awl with a needle-sharp point, which he believes would have been ideal for the task. However, if Ötzi was using acupuncture, why did

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COURTESY LEOPOLD DORFER

A cross-shaped tattoo on Ötzi's inside right knee. Could this have marked the acupuncture points used for treatment of his abdominal disorders?

the practice drop out of Western medicine for nearly 5,000 years?

—Richard Fullagar  
University of Wollongong