

# Warning after pathogenic tapeworm discovered in Australia for first time

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A specimen from the same group of tapeworms as the Pacific Broad. Credit: Murdoch University

A highly pathogenic tapeworm never recorded before in humans in Australia has been found in a young boy from South Australia.

The Pacific Broad Tapeworm (*Diphyllobothrium pacificum*) was recovered from the three year old from the Eyre Peninsula, and formally identified by Murdoch University parasitologists.

Various species of marine fish can act as intermediate hosts for the parasite and infection occurs widely in fish eating mammals, including humans. In this case, the boy had regularly been eating raw marine fish caught by his father.

A definitive diagnosis required a molecular investigation and so the [tapeworm](#) samples were sent to Murdoch's parasitology diagnostic unit, headed by Louise Pallant.

Emeritus Professor of Parasitology Andrew Thompson said the parasite was principally found in the northern hemisphere so the case was very significant.

"The organism has also been found in coastal waters of South America, southern Africa and Oceania, but to our knowledge, no human case has been reported from the Australian region to date," he said. "While symptoms are generally mild, and were not significant for this patient, our findings and reports from the last 90 years suggest these tapeworms are endemic in fish-eating mammals found off the Australian coast, and more human cases can be expected. People who eat fresh, raw [marine fish](#) are most at risk."

Symptoms of diphyllbothriasis, the disease associated with this tapeworm, can include diarrhoea and vomiting, as well as pernicious anaemia in some patients if infections are not treated early.

The condition is treatable but many cases go years without being detected because some carriers experience no symptoms. In a small number of cases, this leads to severe vitamin B12 deficiency due to the parasite absorbing up to 80 per cent of the hosts' B12 intake.

In the Australian case, which was diagnosed and treated last year, the boy made a full recovery after treatment. The Pacific Broad Tapeworm is common and endemic in Scandinavian countries, but cases have also been reported in Peru and Chile.

Professor Thompson said the reasons why the geographical distribution of the parasite was changing could be due to climate change. "It is

possible that temperate water currents off southern Australia are changing thus affecting the distribution of the fish hosts of the parasite," he said. "Our identification of the tapeworm also attests to Murdoch's expertise in [molecular parasitology](#) and the flexibility of our diagnostic unit."

The findings from the case have just been published in the latest issue of the journal *Emerging Infectious Diseases*.

**More information:** Casey V. Moore et al. Rare Human Infection with Pacific Broad Tapeworm Australia, *Emerging Infectious Diseases* (2016). [DOI: 10.3201/eid2208.160156](https://doi.org/10.3201/eid2208.160156)

Provided by Murdoch University

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