

## DISEASE ERADICATION

## Plan to end yaws disease queried

*Bid fails to account for wild primates as hosts of infection.*

BY LUCAS LAURSEN

Global health officials are intensifying efforts to eradicate yaws, a disfiguring skin disease that infects more than 64,000 people a year in 14 African and south-east Asian countries. But some critics say that the plans could fail, because they don't take into account discoveries in the past few years that wild primates harbour the bacterial infection.

Public-health officials met in Geneva, Switzerland, last month to discuss how to expand the eradication programme in 6 of the 14 countries in which yaws is endemic. But they did not discuss the part played by wild animals. "Even if this is not the main cause of re-emerging yaws nowadays, it would jeopardize global eradication," says Sascha Knauf, who studies neglected tropical diseases at the Leibniz Institute for Primate Research in Göttingen, Germany.

Five years ago, the World Health Organization (WHO) committed to eradicating yaws by 2020, motivated in part by the discovery that it can be treated using an easy-to-administer oral antibiotic, azithromycin. The WHO estimated that the initiative would cost at least US\$100 million. At the time, public-health officials thought that the disease occurred only in humans. Eradicating a disease that affects only people is much easier than one that also occurs in wild animals.

However, Knauf reported in 2011 (ref. 1) and 2013 (ref. 2) that gorillas, chimpanzees, baboons and smaller primates in several West and Central African countries were infected with the same bacterium that causes yaws (*Treponema pallidum pertenuis*).

Epidemiologist Michael Marks at the London School of Hygiene and Tropical Medicine says that scientists have not yet shown that humans can catch the disease from primates. Even so, "it would be remiss not to pay attention to it", he says.

The WHO is still waiting for such proof, says its medical officer for the disease, Kingsley Asiedu. In the meantime, Asiedu says, "we are not taking that into account, because there has not been proof of an epidemiological link between those yaws-like cases that have been found in primates and in humans". ■

1. Knauf, S. *et al. Vet. Pathol.* **49**, 292–303 (2011).
2. Knauf, S., Liu, H. & Harper K. N. *Emerg. Infect. Dis.* **19**, 2058–2060 (2013).



The MeerKAT array of radio dishes will soon double its capacity.

## DATA HANDLING

## South Africa readies for data deluge

*Nation seeks to retain control over its information.*

BY SARAH WILD

Data scientists in South Africa are preparing to be inundated by a flood of information that is due to crash over them when the country's biggest radio telescope doubles the scale of its operations in March.

A terabyte-an-hour data deluge, which would fill more than three DVDs a minute, will flow from a network of radio dishes called the MeerKAT array. Currently consisting of 32 operational dishes, the array will expand to 64 next month.

The impending flood of data is just a trickle compared with what will arrive after 2020, when international astronomers begin to expand MeerKAT to form part of the Square Kilometre Array (SKA). That will be the world's largest radio telescope, and astronomers are trying to develop the expertise to handle torrents of data ahead of its full opening in 2026. South African data scientists also want to transfer their expertise to areas such as Earth observation and bioinformatics.

"We are building a system that empowers scientists, so that they can be part of processing the data — a system that allows the researchers to work with the data itself and work with the analytics, as if it was on their desktops," says astronomer Russ Taylor, who divides his time between the University of Cape Town in South Africa and the University of the Western Cape in the same city.

The MeerKAT array is designed to collect relatively weak radio signals from space and combine them to extract more information. To convert it into the first phase of the SKA, engineers will initially add another 136 dishes to the MeerKAT site in the Northern Cape province of South Africa, and connect them to 130,000 antennas scattered across Western Australia.

## NUMBER CRUNCHING

Data from the SKA will be shared with scientists from ten partner countries. But for now, South Africa is keen to retain control of its MeerKAT data rather than exporting them to other countries that already have data-processing infrastructure, says Taylor.

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