



PROBIOTICS COULD SAVE FROGS
Bacterial baths help amphibians fight off fungus.
www.nature.com/news

K. SWITAK/NHPA

Microbe meeting promotes habitat conservation

'Save the microbes, save the planet' implored the organic cotton T-shirts on sale at New York's American Museum of Natural History (AMNH) last week. For just \$15, the buyer's chest could highlight the plight of microscopic bacteria, viruses, fungi and archaea.

But the message that came from the two-day Small Matters meeting held at the museum at the end of April ran counter to the T-shirt slogan: many participants questioned whether there is any need to focus on conserving microbes *per se* compared with conserving the habitats they populate and support. "I'm not worried about the demise of bacteria — but I would be about the demise of habitats," says Bess Ward, who studies bacteria and the nitrogen cycle at Princeton

University in New Jersey.

This is probably just as well, because trying to conserve bacteria in the same way that we conserve 'charismatic megafauna' such as pandas and rhinos is hardly workable. And it is hard to make a case for conserving individual species when a vast number of microbes remain to be discovered — and especially given that in the case of bacteria there is no clear definition of a species anyway. Fortunately, because microbes are so abundant, genetically diverse and quick to adapt, there is little concern that particular species will become extinct.

And the microbe conservation agenda does not necessarily support an idea of the more, the merrier. In one study presented at the meeting, Forest Rohwer of San Diego State

University, California, and his team surveyed the microbes living on coral reefs of the Pacific Line Islands using 'metagenomics', or mass sequencing of microbes' genetic material. Off Kingman Reef — which is almost untouched by man — they found 10% fewer microbes than off

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Christmas Island, which supports several thousand people and is overfished. Rohwer says fishing allows algae normally kept in check by grazing fish to proliferate, releasing nutrients that support the proliferation of unwanted microbes.

These suck up so much oxygen that they suffocate the coral. Obviously, this work does have implications for conservation; but these support the need to preserve reefs as a whole, not their microbes.

Meeting organizer Susan Perkins of the AMNH says that the meeting's main aim was to improve dialogue between the various interested groups and to garner more widespread public awareness of the importance of microbes and their environments. But this could be a challenge for entities most commonly associated with germs and disease, as epidemiologist Durland Fish of Yale University in Connecticut pointed out: "I probably won't wear my save-the-microbes T-shirt to the infectious-disease clinic." ■

Helen Pearson