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Kelp is at hand: seaweed may turn tide against superbugs

Drug-resistant infections kill 700,000 people a year but now a kelp has been found to have powerful antimicrobial properties

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Health Editor

Humble seaweed could be the saviour of humanity, according to research that reveals it has the power to help defeat drug-resistant superbugs.

Antimicrobial resistance is killing 700,000 people a year around the world, and is predicted to cost 10m lives annually by 2050. Widespread use of antibiotics is seeing the drugs lose their ability to kill the germs they were supposed to conquer – a growing crisis that has led to a global search for new drugs.

In a discovery described this weekend by Professor Dame Sally Davies, England's chief medical officer, as "fantastic", scientists have discovered that the common seaweed golden kelp, or Laminaria ochroleuca, contains microbes that could bolster the war on superbugs. It boasts a range of actinobacteria, which have proved a rich source of antibiotic and antifungal drugs.

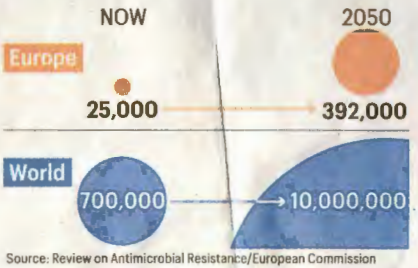
The discovery followed analysis of a seaweed sample taken off the rocky shore of Mindelo in northern Portugal. After six weeks, the team isolated 90 actinobacterial strains that were then screened for antimicrobial properties.

The results stunned scientists. They showed that 45 of the strains inhibited the growth of the fungus Candida albicans or the bacterium Staphylococcus aureus, two of the world's most common causes of infections – or both.

Maria de Fatima Carvalho, a microbiologist at the Interdisciplinary Centre of Marine and Environmental Research in Porto, said the findings were "a nice surprise". Some extracts proved adept in tackling infections at very low concentrations. In a further boost, two of the compounds appear to be new to science.

Laminaria ochroleuca or golden kelp

PREDICTED DEATHS FROM SUPERBUGS



Source: Review on Antimicrobial Resistance/European Commission

Davies, who has previously warned of an "antibiotic apocalypse", said she was "encouraged" by the findings, published in the journal Frontiers in Microbiology. She said: "We urgently need to find innovative ways to tackle the global threat of antimicrobial resistance, including looking in unlikely places for solutions."

It is almost a century since another unexpected antibiotic discovery was made by Sir Alexander Fleming. He found penicillium in a stray mould at St Mary's Hospital in west London in 1928, heralding the beginning of penicillin. It has since saved the lives of an estimated 200m people.

Ghada Zoubiane, science leader for the drug-resistant infections programme at Wellcome, a health research foundation, said: "Scientists have been increasingly exploring unlikely environments, including the oceans, to find new sources of these precious drugs. We know that this has been successful in the past – our very first antibiotic, penicillin, came from a mould growing on a dish."

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