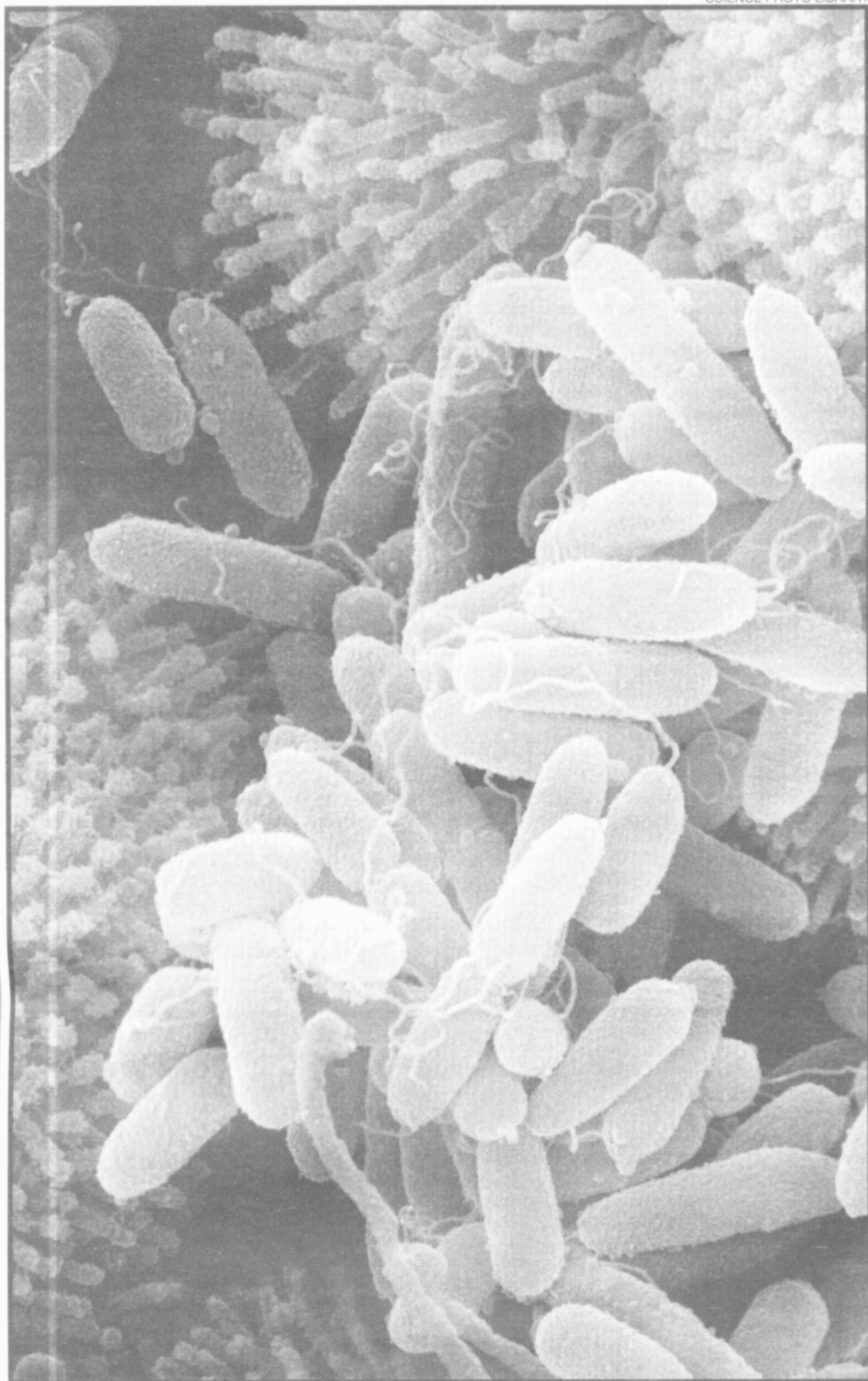


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Relatively easy: bacteria such as *Pseudomonas aeruginosa* work with their kin

## Lowlifes look after the family

**Olga Wojtas**

Social commentators frequently deplore the breakdown of family bonds, but researchers have found that the humble bacterium can always count on close relatives when the going gets tough.

Evolutionary biologist Stuart West of Edinburgh's School of Biological Sciences said it was well established that family cooperation existed among higher life forms such as insects, birds and mammals — related individuals can maximise their genetic contribution to the next generation by helping their kin.

The Edinburgh study clearly shows "social interaction" between micro-organisms, with the bacteria that commonly infect patients with cystic fibrosis cooperating to ensure survival of closest relatives. The findings could help microbiologists tackle bacterial infections more effectively.

*Pseudomonas* bacteria, a genus resistant to most antibiotics, were found to cooperate by scavenging for vital iron supplies, which the human body withholds to limit bacterial growth.

The research suggests that cooperation between related parasites has evolved to overcome the host's defences. The team investigated groupings of bacteria with various levels of relatedness. Closer relatives worked better together, so that even if an individual did not survive, its relative would.

This ability to scavenge iron is a key factor in bacterial proliferation. It suggests that if such cooperation could be reduced, infection would be less likely to spread.

Dr West said: "We have shown that the reasons for cooperation in pathogenic bacteria can be remarkably similar to those in more complex social societies."