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News

## Ants' nests stay pine-fresh

Insects collect resin to keep disease at bay.

[John Whitfield](#)

European wood ants harvest resin to disinfect their nests, say Swiss researchers. They are the first insects to be shown to collect plants for medicinal purposes.



A large nest can contain up to 20 kilograms of resin.

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The ants, *Formica paralugubris*, gather grains of hardened sap from the conifers that surround their nests, reports Michel Chapuisat of Lausanne University. A large nest can contain up to 20 kilograms of the stuff. Conifer resin contains antibiotic chemicals, and may protect the trees against infection.

Chapuisat's team created nests with and without resin. Those without had three times more fungus growing in them, and contained significantly more disease-causing bacteria.

This is the first animal found to use plants to protect its whole society, says ecologist Marcel Lambrechts of the Centre for Functional Ecology and Evolution in Montpellier, France. Bees also collect resin; it was thought this was just to repair their hives, but it may also be medicinal.

Several animals dose themselves with healing plants, adds Lambrechts. Chimps eat medicinal plants, and some birds build herbs into their nests. "If we look at animal behaviour we could find chemicals for humans to use," he says.

The Lausanne group now plans to investigate whether resin affects ant mortality, and whether insects in diseased nests collect more resin - whether the behaviour is prevention or cure, in other words.

Crowded, damp and warm, an ants' nest is a good breeding ground for disease. Ants have evolved other sophisticated public-health systems to keep infection at bay.

They groom each other carefully, and dump corpses in outside graveyards. One fungus-farming ant even carries antibiotic bacteria on its body, to kill harmful fungi. ■

### References

- Christe, P. *et al.* Evidence for collective medication in ants. *Ecology Letters*, **6**, 19 - 22, (2003). | [Article](#) | [ISI](#) |

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