

The quest for rat poisons that mimic the Pied Piper's magic flute

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Scientists dream of developing a real-world version of the Pied Piper's magic flute — new poisons that pose no threat to people, pets or wildlife, while specifically targeting rats, those germ-laden creatures that outnumber humans 6 to 1 in some urban areas. An article in the current edition of Chemical & Engineering News (C&EN), ACS' weekly newsmagazine, details some of the steps toward that goal.

C&EN Associate Editor Jyllian Kemsley points out that [rats](#) not only are notorious carriers of infectious disease, but threaten the survival of native plants and wildlife. Modern rat poisons, often based on anticoagulants, are effective. However, these substances can harm people and other animals and rats are developing resistance, so that they shrug off the effects of existing anticoagulants. The poisons thus may hurt other animals while leaving rats alive to continue their rampage.

The article explains that one of the major challenges today involves tracking whether and how much of a rodenticide is being consumed by rats or by other animals. Scientists are reporting progress on this front, which includes use of special fluorescent dyes to track how much bait rodents are eating and studying the fecal samples of their predators to identify contamination routes. Research also involves mutations in a gene that allows some rats to develop resistance to anticoagulants. These and other studies could lead to safer rat killers, the article suggests.

More information: "Regulating Rodents" This story is available at pubs.acs.org/cen/science/89/8902sci2.html

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