

# That's why crickets sing



Researchers have discovered that crickets started singing 300 million years ago, initially to escape from predators.

The researchers conducted a major study aimed at understanding how the sense of hearing and production of sound developed during the insects' evolution. It turned out these features were initially important in avoiding predators; only later were they used to attract a mate. 'There has been a lot of research

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on how insects communicate,' says Sabrina Simon, a Biosystematics researcher. 'But we didn't know when, how or in what context the specialized hearing and sound-producing organs evolved.'

The researchers reconstructed the complete family tree of *Orthoptera*, a group of insect species that includes crickets. 'By going through their entire history, we were able to

determine that acoustic communication developed about 300 million years ago. It started as a defence mechanism and was later used for sexual communication,' says Simon. 'Insects also turn out to have been the first animals to use acoustic communication.'

The results open the door for further research, says Simon. 'The family tree we compiled can be used to study other properties and how they developed during evolution, for example dietary changes or the evolution of wings.'

The study also disproves one key theory. 'The *Orthoptera* group has a lot of different species,' says Simon. 'Darwin proposed that sexual selection could play a role. But we found that *Orthoptera* subgroups that use sound for sexual selection don't diversify faster than other subgroups. So sexual communication can't be the reason for the large number of singing species.' TL

## Student consultants help 'De Gieterij' get going

Part of the Academic Consultancy Training (ACT) module involves WUR students doing research for external clients and giving them advice. One such client is 'De Gieterij', a new sustainable shop in Wageningen that opened on Saturday 10 October.

'We investigated which consumer groups could become regular customers,' explains Communication & Innovation Master's student Juul Kappelhof (24), one of the students in the ACT group. 'Then we interviewed people from those groups to find out what their wishes are.'

'For example, the shop wants to sell a lot of goods without packaging but some consumers are afraid that fruit and veg will go off more quickly then. You can solve that issue with a cooling system or by using sustainable packaging materials.' The students also recommended organizing information evenings in which local farmers talk about their products.

WUR alumnus Linde van der Knaap (MSc Organic Agriculture) is one of De Gieterij's two owners. 'On the recommendation of the ACT group, we also have a delivery bike that students can use to transport their bulk purchases back to their student houses.' LZ

'We saw it coming and we're fine with it.'

John van der Oost, WUR microbiologist and the man who discovered the principle of CRISPR-Cas in bacteria, was overlooked for the Nobel Prize in Chemistry. It was awarded to the CRISPR-Cas researchers Emmanuelle Charpentier and Jennifer Doudna.

Check out pages 16-17 for a photo of the opening, and read more on [www.resource-online.nl](http://www.resource-online.nl).