

Press release**Technische Universität Dresden****Kim-Astrid Magister**

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<http://idw-online.de/en/news715890>Research results, Scientific Publications
Biology
transregional, national**Bedmate Wanted: Who Hosted the First Bedbug?**

An international team of scientists under the cooperative leadership of TUD biologist Prof. Klaus Reinhardt has published new findings on the evolution of bedbugs in the renowned scientific journal *Current Biology*.

Over the course of more than fifteen years, researchers dared to embark on any adventure that would help them expand their collection of bedbug samples. This quest for the tiny beasts led them across the globe – from African bat caves to steep bird cliffs in Southeast Asia. Now, the time and effort invested has finally paid off: a new study by the international team of scientists led by Dr. Steffen Roth from the University Museum of Bergen (Norway) and the biologist Prof. Klaus Reinhardt from TU Dresden reveals insights into the evolution of bedbugs that surprised the scientists themselves.

In their work, the scientists compared the DNA of dozens of bedbug species to understand the evolutionary relationships within the group as well as their relationship to humans. The first astonishing result concerns the age of the despised bloodsuckers: The study shows that bedbugs emerged roughly 115 million years ago. This means that they predate bats by more than 30 million years. Until now, it was believed that bats were the first bedbug hosts. It was also "very unexpected to see that evolutionarily older bedbugs must have been specialised in a single host type. Although we unfortunately do not know who the host was, it must have been even older than *Tyrannosaurus rex*", says Dr. Steffen Roth, head of the study.

The team also discovered that two human parasites, the common and the tropical bedbug, are much older than humans themselves. This result contradicts the common notion that the division of humans into *Homo erectus* and *Homo sapiens* caused the split of the bedbug into two new species.

Furthermore, the study shows that a new type of bedbug emerges every 500,000 years, but they continue to use their old hosts. Prof. Klaus Reinhardt predicts that this trend will continue: "It will certainly not be another half a million years before the next type of bloodsucker populates our beds, as many more people currently live on earth and the movement of animals and pets creates many more opportunities for contact. On that note, 'good night and sweet dreams.'"

Image: Most bedbug species use bats as their host. Here, a North American species can be seen sucking blood from the nose of a bat. Contrary to previous assumptions, Klaus Reinhardt and his team were able to establish that bats were not the first hosts of these tiny bloodsuckers. Copyright: Mark A. Chappell, University of California, Riverside

contact for scientific information:

Prof. Dr. Klaus Reinhardt

Professor of Applied Zoology

Tel.: 0351 463-37534

Email: klaus.reinhardt@tu-dresden.de

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