

News & Comments

Your Cup of Tea Has Bugs – Scientists Discovered

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A team of researchers from the University of Trier, after examining commercially available teas and herbs, [concluded](#) that up to 400 different types of insects were in a single tea bag.

To make the above findings, they have designed a new method to study teabag for traces of insect DNA. According to the team, this method can help in obtaining environmental DNA (eDNA) from dried plants which can then be evaluated.

Since eDNA can be collected almost anywhere in the environment - in water, soil, or plants - biomonitoring, the observation and surveillance of animals and plants, has made great progress.

Among the samples of commercially produced teas and herbs bought at German grocery stores, researchers found the trails of 3,264 invertebrates, including predators, herbivores, detritivores, and parasites. A wide variety of DNA traces were found, including spider DNA, cockroach DNA, mite DNA, fly DNA, butterfly DNA, and mantid DNA.

It is likely that the stunning diversity is the result of the drying process for dried herbs (tea leaves, mint, and parsley) - as they are ground up, the DNA from all the fields where they are grown (likely including whole bugs and their eggs) gets preserved, mixed, and spread. With the help of eDNA, scientists can precisely point out the origin of plants, along with the invertebrate biodiversity of that area. In addition to monitoring arthropods and arthropod–plant interactions, detecting agricultural pests, and identifying the origin of imported plants, dried plant material is an excellent novel tool to monitor arthropods and arthropod–plant interactions. There is no doubt that this method provides a great deal of information that was previously unavailable. Through museum herbarium specimens, it may be possible to extend species records back through time to simplify environmental monitoring. Our natural environment is run by insects and other invertebrates, so we should be able to obtain these records. Our understanding of tea leaves could be very helpful during this time of massive environmental upheaval.

KEYWORDS

Bugs, eDNA, environmental DNA, arthropod–plant, tea leaves, DNA traces, tea, agricultural

