

## Insects as vectors of foodborne pathogenic bacteria

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Arthropods are known as potential vectors of foodborne pathogenic bacteria. Pathogens can cause different types of foodborne illness. Once a contaminated food is eaten, illness can be caused by the pathogens themselves (foodborne infection); caused by toxins produced in the food by pathogens (foodborne intoxication); and caused by toxins produced in the body by pathogens (foodborne toxin-mediated infection). All the studied arthropods were proved to host bacteria, represented by *Staphylococcus*, *Streptococcus*, *Enterococcus*, *Klebsiella*, *Enterobacter*, *Proteus*, and *Escherichia*, *Pseudomonas* on the external surfaces. Among them *S. saprophyticus*, *S. aureus*, *P. aeruginosa*, and *K. pneumoniae* are considered to be of high medical importance. Among the detected bacteria the frequency isolation of pathogenic bacteria was the lowest: 10% for *Pseudomonas aeruginosa* and 20 % for *Klebsiella pneumoniae*. The most common species on the external surfaces of the studied arthropods was *Escherichia coli* (frequency isolation 80 %). Ten percent of the sampled arthropods were contaminated with two bacteria species, 20 % – with three species, and 70 % – with four bacteria species. Our samples of flies – *Musca domestica* L. and *Fannia* sp. – were contaminated with three and four bacteria species correspondently, including such pathogenic for humans and animals bacteria as *Staphylococcus saprophyticus* and *Pseudomonas aeruginosa*. On the external surfaces of studied arthropods were detected pathogenic and conditionally pathogenic bacteria such as: *Staphylococcus saprophyticus*, *Staphylococcus aureus*, *Enterococcus faecalis*, *Enterobacter cloacae*, *Proteus mirabilis*, *Escherichia coli*, and *Pseudomonas aeruginosa* all of them are causative agents of foodborne diseases.