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J.L. NOTES

Differentiation between activity of digestive enzymes of *Brachionus calyciflorus* and extracellular enzymes of its epizooic bacteria

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ABSTRACT

The rotifer Brachionus calyciflorus *was examined by scanning electron microscopy (SEM) for surface-attached, i.e. epizootic, bacteria to ascertain their specific localization and thus find out if we could discern between rotifer and bacterial enzyme activity. The lorica of* B. calyciflorus *was colonized by one distinct type of bacteria, which originated from the algal culture used for rotifer feeding. The corona, posterior epidermis and foot of all inspected individuals were always without attached bacteria. The density of the attached bacteria was higher with the increasing age of* B. calyciflorus*: while young individuals were colonized by ~ tens of bacterial cells, older ones had on average hundreds to thousands of attached bacteria. We hypothesize that epizooic bacteria may produce the ectoenzymes phosphatases and β-N-acetylhexosaminidases on the lorica, but not on the corona of* B. calyciflorus*. Since enzyme activities of epizooic bacteria may influence the values and interpretation of bulk rotifer enzyme activities, we should take the bacterial contribution into account.*

Key words: rotifers, phosphatase, β-N-acetylhexosaminidase, enzyme localization