

**TITLE:** Pathogenic bacteria associated with ants (Hymenoptera: Formicidae) in three hospital services at Blumenau-SC, Brazil

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**ABSTRACT:**

Species of ants become a problem when they circulate in establishments such as hospitals or other health establishments, since they can carry out many pathogens, contaminating environments, and triggering nosocomial infections. For this reason, present study aimed to verify occurrence of ants, and related species, in health establishments at Blumenau - SC. Isolation and identification of pathogenic bacteria and this relation to nosocomial infections was performed. The Hospital Escola Veterinário (HEV) - FURB, Associação Renal Vida and Hospital Santa Isabel (HSI) were investigated. The variable observed were the collection sites, species of ants and bacteria, as well as their pathogenic capacity. In Associação Renal Vida was identified a single ant species, *Tapinoma melanocephalum*, carrying five bacterial important species *Acinetobacter* sp., *Bacillus cereus*, *Pantoea (Enterobacter) agglomerans*, *Proteus penneri* and *Staphylococcus saprophyticus*. In HEV, five different species of ants were collected and three different species of bacteria were isolated: *Staphylococcus saprophyticus*, *Bacillus cereus* and *Pantoea (Enterobacter) agglomerans*. In Santa Isabel Hospital (HSI), four ant species were found, which were isolated mainly *Bacillus* sp., *Micrococcus* sp., *Staphylococcus* sp., *Shigella* sp., *Providencia stuartii*, *Serratia rubidaea*, *Corynebacterium* sp., *Klebsiella* sp., *Serratia* sp., *Streptococcus* sp. and *Neisseria* sp. About these data, it was observed that ants are associated with such microorganisms, being considered as transmitters and carriers of pathogenic bacteria in health services. This fact may justify the difficulty of keeping hospital infections index controlled, which may lead to multidrug-resistant infections. Therefore, it is concluded that for such entomological control it is necessary to consider not only internal hospital settings, but also the exterior and its surroundings.

**Keywords:** Pathogenic bacteria, hospital-acquired infection; tramp ants; public health.

**Development Agency:** PIPE/Artigo 170 – FURB