

**THE INFLUENCE OF LICHEN SECONDARY METABOLITES EXTRACTED FROM THE
XANTHORIA PARIETINA (L.) TH. FR.) THALLUS ON THE DEVELOPMENT OF ORAL
CAVITY BACTERIA**

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ABSTRACT

Lichen secondary metabolites are organic compounds produced by lichen in order to protect themselves against microorganisms, parasites and harmful environmental conditions. Interesting features of these substances were used in the ancient times for therapeutic purposes (Opanowicz 2002). Anthraquinone (9,10-dioxoanthracene), produced in the thallus of *Xanthoria parietina*, is an example of the secondary metabolite. Both this compound as well as others produced by the golden lichen exhibit a wide biological and antibacterial activity (Sobotta i in. 2010). Oral cavity is the living environment for many bacterial species. Some of them can lead to serious health complications and demineralization of tooth enamel (Jańczuk 2007). The aim of the studies was to prove antibacterial properties of the lichen secondary metabolites which occur in the thallus *Xanthoria parietina* and to determine their practical applications in different areas of human life. In order to achieve this goal bacterial cultivations of the dental plaque bacteria were started on an agar plate. The growth of the bacteria was monitored every day and the date the first bacterial colonies appeared was noted. After the bacteria had developed completely, they were exposed to the influence of the secondary metabolites extracted from the thallus *Xanthoria parietina*. The results of the studies confirm the antibacterial properties of the lichen secondary metabolites.

Key words: lichens, secondary metabolites, oral bacterias

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