

## ***Gymnosporangium* fungi — an important issue of plant protection: review**

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Rust fungi (Fungi, Basidiomycota, Pucciniomycotina, Pucciniomycetes, Pucciniales) are one of the most important pathogens causing fungal rust diseases and they are infecting many plants, including cereals and field crops, vegetables, trees and many ornamentals. They have been studied for a long time, and have economic importance among the plant diseases caused by agents of different species of fungi. In Europe thirteen genera have been reported, of which the genus *Gymnosporangium* is the second largest after genus *Phragmidium* and the most significant fruit trees rust pathogens belongs to genus *Gymnosporangium*. The literature review shows quite limited scientific information about this genus and its species. Mainly studies focus on some stages of the pathogen development cycle, which are significant for the spread of diseases — uredo and teleito stages. Special attention of review has been paid to the European pear rust (caused by *Gymnosporangium sabinae* (Dicks.) G. Winter), which distribution was increased during the last ten years, especially in organic pear orchards. Currently there is limited number of scientific publications about the European pear rust mainly based only on observations *in vitro* without trials on the field, despite it is becoming as one of the most devastating diseases. Therefore presented review is analysing rust exploration history, diversity and distribution of species, life cycle, development biology, and plant protection issues.

**Keywords:** diseases, life cycle, pear, rusts, species