

The study of *Armillaria Mellea Sensu Lato* Complex in the Central Areas of the Krasnoyarsk Region

T. Yu. Razdorozhnay – Russian Centre of Forest Health, Krasnoyarsk Centre of Forest Health, Engineer, Krasnoyarsk, Russian Federation, Yushkova.Tatiana@yandex.ru

E. A. Shilkina – Russian Centre of Forest Health, Krasnoyarsk Centre of Forest Health, Head of the Department, Candidate of Biological Sciences, Krasnoyarsk, Russian Federation

Keywords: pathogenic fungi, DNA-diagnostics, sequencing, species identification

The *Armillaria mellea* s.l. complex is a natural component of the ecosystem, which along with other wood decaying fungi is one of the endogenous mechanisms of restructuring unsustainable forest communities into more sustainable in the course of succession, from a simpler structure of forest stands to more complex [1].

Until recently, the impact of root pathogens (*Armillaria mellea* s.l., *Heterobasidion annosum* s.l.) on the territory of Siberia did not represent a great danger, only minor cases of drying were recorded, as, for example, in forest cultures of Scots pine in the South of Krasnoyarsk territory [2]. The worsening state of health, and forest pathology of coniferous trees significantly expanded the range of pathogenic fungi exposure [3, 4] and currently requires continuous monitoring of the root pathogens development, comprehensive studies of their severity and development of measures to combat these diseases. In addition, the current level of participation of phytopathogens of the *Armillaria mellea* s.l. complex in the process of drying of forest stands and their harmfulness are strongly underestimated because of poor-studying and difficulties in their detection and identification.

In this regard, the aim of this work was to study the *Armillaria mellea sensu lato* complex on the territory of Siberia.

The objectives of the study included:

1. To Select the samples of the *Armillaria mellea* s.l. complex in coniferous stands on the territory of Krasnoyarsk and Emelyanov forestries, isolate the pure cultures;
2. To determine the optimum temperature of mycelial growth of the honey mushroom in Siberia;
3. To assess the aggressiveness of the isolates by artificial introduction of the pathogen into the plant tissues;
4. To carry out species identification of strains resistant to low temperatures and aggressive in respect of the host plant

Solving these problems allows to study the features of development of the studied pathogen in Krasnoyarsk region, to facilitate the diagnosis of this disease, including the use of innovative molecular genetic methods, and make recommendations to restrain its development.

References

1. Storozhenko, G. Complexes saprophytic fungi on valezhe in spruce stands of different origin / G. Storozhenko // *Forestry*. – 1992. – № 5. – P. 64–67.
2. Explanatory note concerning the Organization and management of Minusinskogo forestry. – T. I ; Kn. 1.- Krasnojarsk, 2004. – 300 p.
3. Denisov, B. S. Modern problems of forest protection / B. S. Denisov // *Lesohoz. inform.* – 2003. – № 2. – P. 23-25.
4. Afanasova, E. N. Study nutrient Wednesday when cultured / E. N. Afanasova, N. Pashenova // *Mycology and Phytopathology*. – 2005. – № 2. – P. 62–65.