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Front cover photograph: sweet violet (*Viola odorata* L.) in the oak-hornbeam forest in Radojewo near Poznan (Wielkopolska region, Poland), March 2014. (Photograph by Zbigniew Celka)

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Ambrosia artemisiifolia L. in the territory of National Natural Park "Oleshkivsky Sands"

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We studied the alien flora fraction of the National Natural Park "Oleshkivsky Sands" from 2008. As a result of our investigation, a preliminary list of alien species including 102 species of vascular plants from 84 genera belonging to 30 families was elaborated.

Ambrosia artemisiifolia L. was included in the Internal group of Quarantine List of Ukraine. It is one of invasive species which is actively distributing in the territory of the Park and incorporating in semi-natural habitats, e.g. meadow-steppe. Observations were carried out over 3 years. Standard methods of population ecology were used.

The highest population of *A. artemisiifolia* was found to grow on the plot "Burkut" and occupied the area of 94 nr. It grew in lowland areas which were located along a country road. It did not appear in more xerothermic plots of the park. The area of spreading of *A. artemisiifolia* did not change on this plot for years of research. When precipitation increased during the growing period, *A. artemisiifolia* produced abundant above-ground mass. It is manifested most germination of seed.

It is proposed to apply the method of phyrocoenniie destruction of *A. artemisiifolia* on the territory of the Park.

Large-scale *in vitro* propagation of *Pleurozium schreberi* (Willd. ex Brid.) Mitt. (Hylocomniaceae) for air pollution monitoring

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Growing concern about the level of air pollution has lead to an increased demand for biological materials which are used for air pollution monitoring. The aim of this study was to develop a method for vegetative multiplication of *Pleurozium schreberi* which is routinely used for air pollution monitoring.

The experiment consisted of three phases: (1) four different media constituents: Gamborg's (B5), 1/2 B5, Murashige and Skoog basal, and Rudolph's solution, all solidified with Bacto-Agar, with and without sucrose and with three growth regulators: indole 3-acetic acid (IAA), 6-benzyloaminopurine (BAP), and