Entomological-phytopathological monitoring woody plants of the Central Botanical Garden of the Russian Academy of Sciences

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Monitoring of species of plant pathogens and pests had shown that the greatest damage to the collections of woody plants in the MBG, RAS (Moscow) is damaged by roots and stems rots, stem pests and invaydery insects. Heterobasidion s.l. was found on the species of Picea A. Dietr., Larix Mill., Abies Mill. and Juniperus L. The disease weakened trees, and led to the colonization of stem pests, death of some species of collections. The species of Picea abies 'Virgata', P. alcoquiana (Veitch ex Lindl.) Carriere, P. koyamai Shiras, P. omorica 'Borealis', P. orientalis (L.) Link. were resistanced to Ips typographus L. in MBG. Abies arizonica Merriam., A. balsamea (L.) Mill., A. fraseri (Pursh.) Poir., A. lasiocarpa (Hook) Nutt., A. sibirica Ledeb., A. veitchii Lindl. were damaged by Polygraphus proximus Blandf. and Grosmannia aoshimae (Ohtaka, Masuya & Yamaoka) Masuya & Yamaoka. A. alba Mill., A. excelsior Franco, A. holophylla Maxim., A. homolepis Siebold et Zucc., A. koreana Wils., A. nordmanniana (Stev.) Spach., and A. semenovii Fedtsch. were resistant species at this stage [1]. Damage to the collection of ash was caused Agrillus planipennis Fairmaire. From 70 to 100% of the trees of the European and American species of ash trees were killed. Dead trees of Asian species F. mandshurica Rupr. and F. chinensis Roxb. [= F. rhynchophyla Hance] did not carry any trace of A. planipennis infestation [2]. Reducing of number of other groups of pests were noted compared to the 2013 year. The species of Taxus L. actively was damaged by Parthenolecanium pomeraricum (Kawecki). Diseases: leaf spots, powdery mildew, Schutte, necrotic-cancers and rots were widespread each year, however, the degree of damage was usually mild or moderate, rarely severe. Brown spot and rust were the main diseases of leaves of Populus L. species [3]. 10 species of plant pathogens and 7 species of pests were identified on 26 taxa of juniper [4]. A dangerous disease of pine needles Sphaeropsis sapinea (Fr.) Duko & B. Sutton [= Diplodia pinea (Desm.) J. Kickx. f.] was marked in MBG the first time.

References

1. Defectiveness the species Abies Mill. by Ussuri polygraph Polygraphus proximus Bland. and his fungus associations in the collection of the Central Botanical Garden of Russian academy of sciences/ L. G. Seraya, N.V. Pashenova, L. N. Mukhina, A. V. Dymovich, M. S. Alexandrova, Y. N. Barancikov // Biogeocenoses of Boreal zone : geography, structure, function, dynamic: Proceedings Russian researcher. conf. with international participation (Krasnoyarsk, 16-19 September 2014). – Novosibirsk: SB RAS, 2014. – 652–655.

2. Barancikov, J. N. All European ash trees are not resistant to Agrilus planipennis Fairmaire (Coleoptera, Buprestidae) - Far East invader / Y. N. Barancikov, L. G. Seraya, M. N. Grinash // Siberian forest magazine. - 2014. - № 6. – P. 80–85.

3. Leaf diseases of different species of poplar in Moscow / L. N. Mukhina, M.V. Kostina, J. A. Nasimovich, A.V. Krylov, M. S. Parsevnikova/Taxonomy and floristic studies Northern Eurasia (to 85-th anniversary of Prof. A. Elenevski) : Proceedings international conf; Ed. V. P. Viktorov . – M. : MSPU, 2013. – P. 150–153.

4. Pathogens and plant feeders in the juniper collection of the Central Botanical Garden of RAS / L. N. Mukhina, L. G. Seraya, O. A. Kashtanova, M. S. Alexandrova // Proceedings of St. Petersburg forestry Academy. – Spb., 2015. – ISS. 211. – P. 216–229.