

Kozlovsky M, *Bursaphelenchus mucronatus* as a cause of dying a secondary fir forests in Ukrainian Carpathians. In: Schröder, T. (ed.), Pine Wilt Disease Conference 2013, pp. 100, Braunschweig, ISSN: 1866-590X

## **(109) *Bursaphelenchus mucronatus* as a cause of dying a secondary fir forests in Ukrainian Carpathians**

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Natural range of the stem nematode *Bursaphelenchus mucronatus* (Mamyá & Enda, 1979) in the Ukrainian Carpathians reach upper tree-line. In fir-wood belt (1000-1400 m above sea level) there were found some dead and dying fir trees with a few stem nematodes. No mass infection of wood was revealed.

At lower altitude (400-900 m) in zone of beech forest formations the secondary fir woods are exposed noticeably more on infection (from 50% to 100% of inspected trees of age 40 – 100 years). Trees at the age 60-110 years are infected much more and often, compare to 40 years old fir trees. Stem nematodes were found in trees of different healthiness categories – dead, dying as well as trees without signs of disease.

A lot of trees are infected in severe parts of trunk. Entirely infected fir tree, from butt to top of crown, there was not found. Mostly, stem nematodes were found on upper part of crown and lower or middle part of trunk, that indicates frequentative infection of trees.

In beech-forest belt the infectiousness of fir trees by stem nematodes counts in the range from dozens to 300 nematodes in 1 g of dry wood. Perhaps, stem nematodes expansion is stimulated here by warmer climate.

On some trees were found stem nematodes in space between yellow top and green low part of crown; damages of roots by mushrooms and trunk by xylophagous insects were not revealed. Therefore, we assumed that stem nematodes indeed causes dying of crown top of fir.

Diameter of body of *Bursaphelenchus mucronatus* averages for female 20-24,6, for male - 25-30  $\mu$ ; morphological parameters within  $L = 648,2 \pm 78,5$ ;  $a = 30,2 \pm 2,4$ ;  $b = 10,5 \pm 0,9$ ;  $c = 16,2 \pm 1,2$ ;  $V = 69,1 \pm 0,8\%$ ;  $St = 13,7 \pm 0,1$ . ♂:  $L = 714,2 \pm 35,9$ ;  $a = 30,9 \pm 8,0$ ;  $b = 11,0 \pm 0,7$ ;  $c = 18,6 \pm 1,3$ ;  $Sp = 24,3 \pm 0,6$ ;  $St = 13,7 \pm 0,1$ .

In our opinion, in zone of beech forest the stem nematodes are the one of the main reason of fir wood dying.