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TAXONOMY AND NOMENCLATURE OF PLANT PATHOGENIC BACTERIA (1864-1995)

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Summary

Considerable changings in contemporary nomenclature and taxonomy of phytopathogenic bacteria were made regarding names of some pathogens and new genera. In this paper the literature review of so far used names of bacteria and proposals for new names brought with the latest changings communicated by eminent phytobacteriologists (Young et al, 1996) were given.

- The former genus „*Corynebacterium*” had been already divided into several genera: *Arthrobacter*, *Clavibacter*, *Curtobacterium*, *Rathayibacter* and *Rhodococcus*.

- From the genus *Pseudomonas* two new genera were separated: *Acidovorax* and *Burkholderia*, the names not used so far in phytobacteriological literature. The genus *Xanthomonas* was also a subject of considerable changes, because many bacteria - pathogenic varieties of the species *X. campestris* - were renamed and they do not belong any more to this species, but to the species *X. arboricola*, *X. axonopodis* and *X. hortorum*.

- The bacterium *X. translucens* has now its pathovars: *X. translucens* pv. *arrenatheri*, pv. *cerealis*, pv. *graminis*, pv. *phlei*, pv. *phleipratensis*, pv. *poae*, pv. *secalis*, pv. *translucens* and pv. *undulosa*.

- Besides the mentioned genera, the naming of the new genus *Pantoea* for the bacteria *Pantoea agglomerans*, *P. ananas* and *P. stewartii* is suggested.

- We should be informed with all this, accept eventual new suggestions and changings and apply this in our scientific and teachers' work.

Key words: bacterium; genus; species; subspecies; pathovar; taxon; name of bacterium.

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(Primljeno: 10.03.1998.)

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STUDY OF THE *ERYSIPHE GRAMINIS* F. SP. *HORDEI* POPULATION, OF THE BARLEY PATHOGEN, USING MOBILE NURSERIES

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Summary

Spring population of *Erysiphe graminis hordei*, of the barley pathogen, was analyzed using of mobile nurseries in the Kragujevac locality (Serbia) during the period from 1995 to 1997. There were significant differences in the course of development of this parasite between years and depending on environmental conditions during plant standing in the field.

Maximal values of coefficient of infection in 1995 were in V (27-28 of April) and 1997 in VI (8-9 of May) mobile nurseries. In 1996 powdery mildew severity was very low, because of unfavourable environmental conditions for disease development.

All M1 genes of resistance had corresponding genes of virulence in the population of the parasite. The lowest frequency had v-05, V-p and V-(1402) virulency. Frequencies of V-a8, V-a, V-a3, V-a6+V-a14, V-a7+V-k+V-(No3), V-a7+V-(LG2), V-a9+V-k, V-a9, V-a10+V-(Du2), V-a12+V-(Em2); V-a13+V-(Ru3), V-c, V-(41/145), V-(Ru2), V-k, V-nn, V-at, V-g+V-(CP), V-(La) i V-h were very high.

The mobile nurseries have the great significance in the detection of rare virulences and in the investigation of development course of the causer of barley mildew. So, in *E. graminis hordei* population it is find the virulency from ml-05 genes for the first time.

Key words: barley; mildew; mobile nurseries; populations; *Erysiphe graminis hordei*.

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CHARACTERISTICS OF XANTHOMONAS CAMPESTRIS PV. CAMPESTRIS ISOLATES ORIGINATING FROM CABBAGE PLANTS

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Summary

From the cabbage diseased leaves many isolates of the bacterium with yellow colonies were isolated. In this paper four of them were investigated.

Pathogenicity of the strains studied on cabbage plants and on other crucifers was proved by artificial inoculation. The bacteria formed yellow colonies on NA and YDC medium; oxidase test was negative, HR on tobacco leaves and catalase, NH_3 , H_2S and indol production were positive; they hydrolysed starch and aesculin and caused milk proteolysis; acid produced from arabinose, glucose, mannose and mannitol; gelatin liquefaction, nitrate reduction, reducing substances from sucrose, tetrasolium chloride at 0,1% tolerance, acid from dulcitol and lecithinase activity tests were negative; glucose metabolism was oxidative; they grow at 35°C and in liquid medium containing 2 and 5% NaCl.

On the basis of pathogenicity, morphological, cultural and biochemical characteristics it was shown that investigated isolated originating from diseased leaves of cabbage plants belong to the *Xanthomonas campestris* pv. *campestris* (Pammel) Dowson bacterium.

Key words: *Xanthomonas campestris* pv. *campestris*; bacterium; isolates; pathogenicity; morphological and cultural properties; biochemical characteristics; cabbage.

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OCCURENCE OF CAULIFLOWER MOSAIC VIRUS IN SERBIA

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Summary

Cauliflower plants, showing symptoms of vein yellowing, leaf mosaic and deformation, older leaves yellowing and falling off, as well as plant dwarfing and yield reduction, were observed in the production fields near Smederevska Palanka, Yugoslavia, in the last few years. Cauliflower mosaic virus (CaMV) was isolated as a causal agent of the disease.

The virus was identified according to the cauliflower disease symptoms, reaction of inoculated test-plants, way of transmitting and biophysical constants.

Besides plant species belonging to the *Brassicaceae* family, investigated virus isolates were infective for *Nicotiana clevelandii*, as well.

The virus was transmitted mechanically and on the non-persistent was by using green peach aphid (*Mysus persicae*). Thermal inactivation point was between 76-80°C, dilution end-point 10-3, and longevity in vitro 6 days.

Key words: cauliflower; cauliflower mosaic virus; host plants; virus transmitting.

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INCIDENCE OF MYCOPARASITE COLLETOTRICHUM GLOEOSPORIOIDES AND ITS EFFECT ON PATOGEN POLYSTIGMA RUBRUM SUBSP. RUBRUM DEVELOPMENT

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Summary

C. gloeosporioides as a mycoparasite of *Polystigma rubrum* subsp. *rubrum* stromata is wide spread in Serbia. In 1986 and 1987 mycoparasite incidence was more than 80% in almost all localities, or 40-60% in 1988. Mycoparasite severity in most localities were > 0.50, 0.25-0.50 and < 0.25 in 1986, 1987 and 1988 respectively (Table 1).

Perennial average mycoparasite incidence and severity in three localities in the vicinity of Valjevo in the course of 1981-1992 were $64.03 \pm 3.93\%$ and 0.40 ± 0.03 , respectively (Table 2). According to data of mycoparasite incidence (mycoparasite severity > 0.50), (2) years with moderate mycoparasite incidence (mycoparasite severity 0.25-0.50, and (3) years with weak mycoparasite incidence (mycoparasite severity < 0.25). The incidence of *C. gloeosporioides* was effected mostly by the biggest quantity of spring and summer rainfall, as well as by the highest spring and lowest summer temperatures (Table 4, Fig. 2).

Parasited *P.r.* subsp. *rubrum* stromata, overwintered in natural condition, were steril. Nonparasited stromata, overwintered on filter paper soaked in mycoparasite liquid culture extract in Petri dishes, were sterile, too. Healthy plum leaves sprayed with mycoparasite liquide culture extracts resulted in lower subsequent incidence of *P.r.* subsp. *rubrum* in the field condition during 1995 and 1996 (Table 5). The application of mycoparasite conidia suspension on healthy plum leaves reduced percentage of infected leaves, number of stromata per leaf, and disease intensity, but only in 1996 there were significant differences (Table 6). Incidence of *P.r.* subsp. *rubrum* in the course of 1982-1992 was strongly correlated ($r=0.814$) with mycoparasite severity in previous years (Fig. 3).

Key words: mycoparasite; *Colletotrichum gloeosporioides*; incidence; spread; *Polystigma rubrum* subsp. *rubrum*; red leaf spot; stromata development.

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