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MOLECULAR CHARACTERIZATION OF CUCURBIT APHID-BORNE YELLOWS VIRUS AFFECTING CUCURBITS IN TURKEY

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BACKGROUND and OBJECTIVES

Cucurbits are economically important vegetable in Turkey. Cucurbit crops are seriously affected by many viruses including Cucurbit aphid-borne yellows virus (CABYV). CABYV, a widespread polerovirus causing yellowing symptoms on older leaves that were previously associated to nutritional or physiological disorders. CABYV was first identified in 1988 in France, now, CABYV is widely spread in the whole Mediterranean region (Lecoq and Desbiez 2012). In Turkey, CABY reported firstly by Yardımcı and Özgönen (2007) as serologicaly. The purpose of this study was to characterize the molecular variability of CABYV in Turkey, through determining partial coat protein (CP) nucleotide sequences of (CABYV) isolates of Turkey.

MATERIAL and METHODS

To characterize the molecular variability of CABYV in Turkey, cucurbits samples were collected from cucurbit crops in the cucurbit plantation areas of Turkey in 2012-2013. After sample collection, RNA exraction and reverse transcription–polymerase chain reaction (RT-PCR), Tthe nucleotide sequences of the partial CP sequences of CABYV isolates from different province of Turkey were characterized and compared using MEGA5.

RESULTS

Phylogenetic analyses revealed that Turkey isolates belong to two molecular groups. İsolates collected in 1994 and 5 isolates from 2012-2013 clustered in the “European- African” group whereas 3 isolates from 2012-2013 clustered in the “Asian” group. And one isolate presented a mixed infection with the two groups

CONCLUSIONS

In conclusion a phylogenetic analysis showed that at least two genetic groups coexist in the field in Turkey. To our knowledge this is the first study of the molecular variability of CABYV in Turkey. Furter work is needed to understand better the epidemiology and evolution of CABYV in Turkey.

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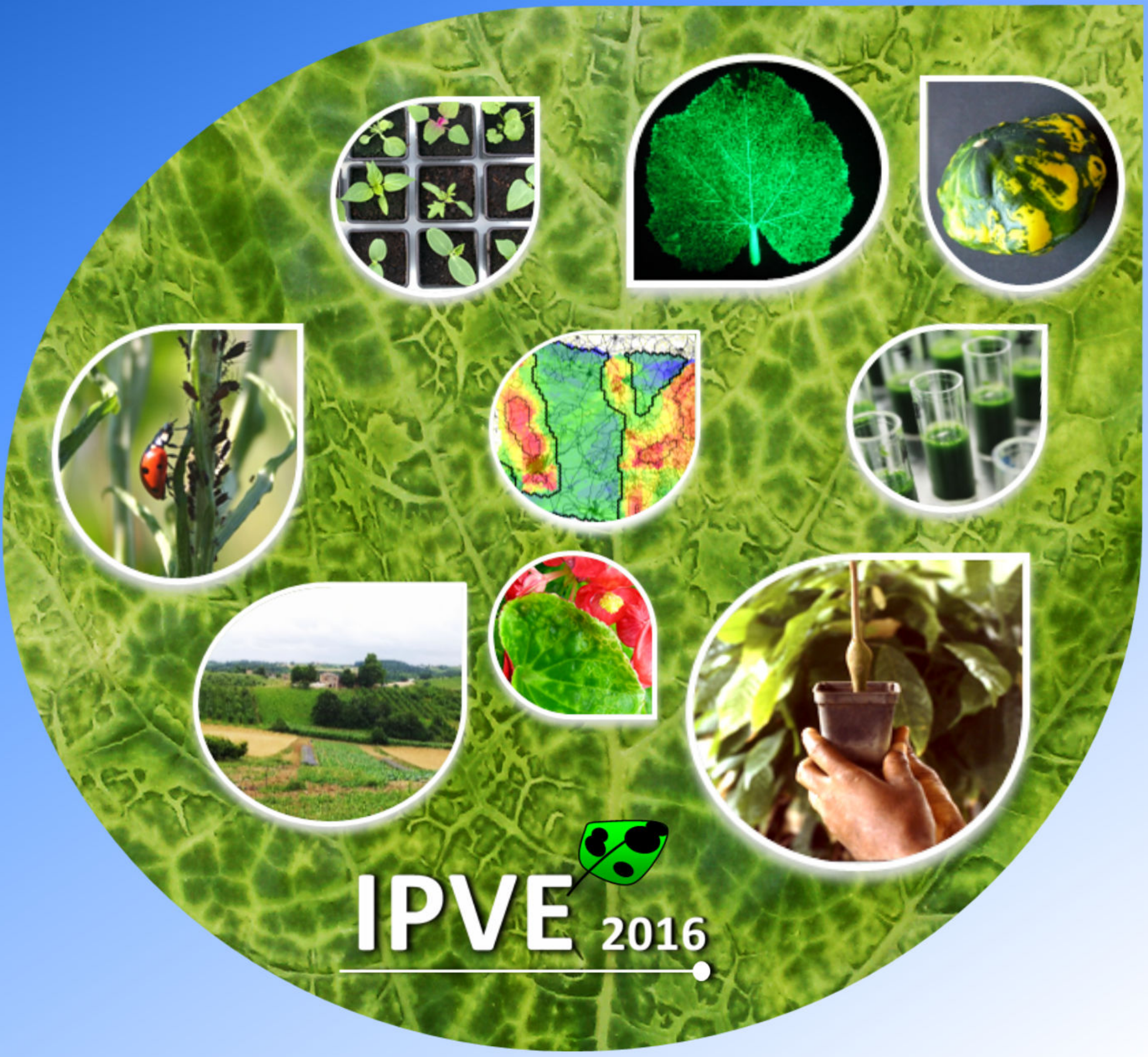
Building bridges between disciplines for sustainable management of plant virus diseases



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