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BLACK QUEEN CELL VIRUS DETECTED IN HONEY

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There are more than 24 honey bee viruses discovered so far. However, six of them are the most important: Acute bee paralysis virus (ABPV), Black queen cell virus (BQCV), Deformed wing virus (DWV), Sacbrood virus (SBV), Chronic bee paralysis virus (CBPV) and Kashmir bee virus (KBV). Usually, infected bees show no clinical signs but any stress can turn these asymptomatic infections into the very serious one. Therefore, it is very important to keep the apiaries free from the viral infections due to the many unpredictable stress factors that can influence on the bees' health.

For the routine laboratory diagnosis, polymerase chain reaction (PCR) is the most widely used method providing the virus detection even either the virus is not viable or ribonucleic acid (RNA) has been degraded by endogenous ribonucleases. Live or dead bees are considered as the most reliable and suitable samples for laboratory investigations. However, we tested 66 honey samples originating from Republic of Serbia, Bosnia and Herzegovina and FYR Macedonia in order to screen the presence of the six most important bee viruses in honey itself.

By using multiplex RT-PCR, Black queen cell virus was found in 53 samples indicating that the infection of bees with BQCV consequently results in a high viral titer in honey. These results show, also, that BQCV is very prevalent in these three countries. Although no infectivity test was performed, the honey should be treated as a risk for the viral infection spreading. Therefore, despite the bee viruses have no zoonotic potential, the screening programs of bee diseases should be included in the regular control procedures for the trade purposes. Additionally, beekeepers can continuously monitor the bees' health status by testing the honey.

Keywords: honey, RT-PCR, Black queen cell virus