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NEW DISEASE REPORT

# First report of *Ornithogalum mosaic virus* infecting iris in Iran

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Iris is an important ornamental and medicinal plant, grown commercially for floriculture and domestically for aesthetic value. *Ornithogalum mosaic virus* (OrMV, *Potyviridae*) has a broad host range infecting plants of the genera *Diuris*, *Gladiolus*, *Iris* and *Ornithogalum* (Gao *et al.*, 2018). During April 2020, symptoms of mosaics and chlorotic spots on leaves were observed in *Iris versicolor* plants growing in Mashhad city, northeast Iran (Fig. 1). Young leaves from six diseased plants were sampled and total RNA was extracted (50 mg tissue per sample) using an SV Total RNA Isolation Kit (Promega, USA) following the manufacturer's instructions. RT-PCR was performed using a primer pair OrMVCPF (5′-AAGCAGAATCTATGGATGCAGG-3′) and OrMVCPR (5′-CACATATTAACACCAAGTAGTG-3′) designed to amplify a 763 bp fragment of the coat protein of the OrMV genome (encompassing the complete coat protein). RT was done using 2 $\mu$l antisense primer OrMVCPR (10 pmol), 3 $\mu$l total RNA, and 1 $\mu$l MMuLV (100 U/$\mu$l) reverse transcriptase in a 20 $\mu$l volume. PCR was performed in 25 $\mu$l reaction mixtures containing 12.5 $\mu$l Taq DNA Polymerase Master Mix RED (Ampliqon, Denmark), 1 $\mu$l each of forward and reverse primer (10 pmol) and 3 $\mu$l template cDNA. The PCR thermal conditions were 95°C for five minutes; followed by 35 cycles of 94°C for 30 s, 58°C for 30 s, 72°C for 60 s, and a final extension at 72°C for seven minutes. PCR products were analysed by agarose gel electrophoresis and four of the six sampled plants gave bands of the expected size (763 bp). Amplified product obtained from one sample was bi-directionally sequenced (Macrogen Inc., South Korea), and the resulting consensus sequence was deposited in GenBank (Accession No. OQ572723). BLAST analysis revealed the highest sequence identity (93%) with the polyprotein gene sequence of an Australian isolate of OrMV from *Iris xiphium* (JN127345).



**FIGURE 1** Iris leaves showing mosaic and chlorotic spots collected in Mashhad, northeastern Iran.

Three potyviruses, *Iris mild mosaic virus*, *Iris severe mosaic virus* and *Narcissus latent virus* (Moradi *et al.*, 2022; Naseri *et al.*, 2022) have been detected previously in Iranian iris fields. These viruses affect adversely iris production and cause a wide range of symptoms, reducing both the ornamental and medicinal value of the crop. Tests were not done for other viruses and it is not known whether the observed symptoms were caused by OrMV or by a combination of viruses. To our knowledge this is the first report of OrMV in Iran and the virus may further impact on Iris floriculture in the country.

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