First report of groundnut ringspot virus in scarlet eggplant in Brazil

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Scarlet eggplant (*Solanum aethiopicum* L.) belongs to the family Solanaceae. In 2017–2018, symptomatic scarlet eggplants with necrotic and concentric ringspot on leaves and fruits were collected in the field of Itápolis (São Paulo, Brazil). Total RNA was extracted (Toth et al. 1998) and used in RT-PCR with tospovirus primers BR60 (5' AGAGCAATCGTGTCA 3') and BR65 (5' ATCAAGCCTTCTGAAAGTCAT 3') to amplify a fragment of 453 bp of the nucleocapsid gene (Eiras et al. 2001). Of the 20 scarlet eggplants tested, 11 were positive. The amplicons were sequenced and showed 99% nucleotide sequence identity with groundnut ringspot virus (GRSV, GenBank accession number AY380780.1), a predominant orthotospovirus in Solanaceae crops in São Paulo State. The complete sequence of the nucleocapsid gene (~800 bp) of GRSV isolates from scarlet eggplant was obtained by RT-PCR using primer BR60 and specific primer GRSVJ1 (5' GTAGTGGTCCATAGCAATGC 3') and sequencing. A 99% nucleotide sequence identity with GRSV (KY400110.1) from São Paulo State was confirmed. Symptomatic leaves of GRSV-infected scarlet eggplant were macerated in 0.05 M potassium phosphate buffer, pH 8.0, for sap transmission to five plants each of Solanaceae hosts which were grown in a greenhouse for 30 days to observe symptoms. Necrotic local lesions and leaf deformation were observed in *Solanum melongena* cv. 'Napolitana' (5/5), *S. melongena* cv. 'Napoli'

(5/5), *S. melongena* cv. 'Roma' (5/5), *S. aethiopicum* cv. 'Morro Grande' (5/5), *S. aethiopicum* cv. 'Comprido Verde Claro' (5/5) and *Datura stramonium* (3/5). *S. lycopersicum* hybrid Mariana (5/5) exhibited concentric necrotic rings on leaves, while *Nicotiana tabacum* "TNN" (4/5) and *N. tabacum* cv. 'Virginia' (5/5) showed local lesions followed by systemic infection. Leaf deformation and mosaic were observed in *Capsicum annuum* hybrid Magali R (3/5) and *S. americanum* (3/5). As far as we known, this is the first report on the occurrence of GRSV infecting scarlet eggplants in Brazil.

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References

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