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Disease Notes

First Occurrence of a Rhabdovirus Infecting Maize in Argentina

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Maize (*Zea mays*) plants showing symptoms of shortened internodes, dwarfism, panicle sterility, and a mosaic of coarse and fine yellow stripes on leaf blades and sheaths, were found from December to March in experimental **maize** plantings in every crop year since 2000-01. Although the disease appeared at a very low incidence (estimates less than 1%), it was found in several locations such as Santa Isabel and Venado Tuerto, Santa Fe Province; Río Cuarto, Colonia Caroya, Río Segundo, and Sampacho, Córdoba Province; and Pedro Luro, Buenos Aires Province. Leaf tissue from eight symptomatic plants collected in Colonia Caroya in December 2011 was used to perform "leaf dips" and ultrathin sections. Electron microscopy of these preparations revealed membrane-bound bullet-shaped particles characteristic of the *Rhabdoviridae* family in mesophyll cytoplasm and vascular bundle parenchyma. The virus was experimentally transmitted to healthy 9-day-old corn plants, with *Peregrinus maidis* (order *Hemiptera*, family *Delphacidae*) raised under laboratory conditions using acquisition, latency, and inoculation vector periods of 7, 21, and 7 days, respectively. The field observed symptoms were replicated in the transmitted plants. Total RNA was extracted from symptomatic and asymptomatic plants with the RNeasy Plant Mini Kit (Qiagen, Germany), and one step RT-PCR (Access RT-PCR Kit, Promega, Madison, WI) was performed, using two sets of degenerate primers targeting conserved regions of **rhabdovirus** L polymerase gene, primers PVO (1) and Rhab (2). The agarose gel bands shown only in symptomatic samples were 450 bp (1) and 1,000 bp (2), as expected. The approximately 1 kb amplicon, which includes that of 450 bp, was cloned into pGEM-T Easy Vector System (Promega). Five independent clones were sequenced in both directions with M13 F/R universal primers to generate a consensus sequence (GenBank Accession No. JQ715419), which was compared to similar plant **rhabdovirus** sequences available on GenBank. The partial L polymerase gene sequence of the corn **rhabdovirus**, **Maize** yellow striate virus had 73% and 71% sequence identity with the members of the *Cytorhabdovirus* genus *Barley yellow striate mosaic virus* isolate Zanjan-1 (BYSMV; GenBank Accession No. FJ665628) and *Northern cereal mosaic virus* (NCMV; GenBank Accession No. NC002251), respectively. A phylogenetic tree from the partial nucleotide L polymerase sequence indicates that the **rhabdovirus** infecting **maize** in **Argentina** is closely related to the cytorhabdovirus members and is separated from the nucleorhabdovirus group. To our knowledge, this is the first mention of a *Rhabdoviridae* family virus infecting **maize** detected in **Argentina**.

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