

Phylogenetic analysis of pea witches broom phytoplasma in Iran**Maryam Ghayeb Zamharir and Ali Dehghani**

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Pea plant (*Pisum sativum*) showing witches' broom symptoms (PWB), small leaves, short internodes and stunting were observed on pea fields in Nourabad region of Lorestan province (Iran). The occurrence of phytoplasma infection in PWB plant was evaluated by molecular analyses based on 16S rDNA, nested-PCR/RFLP, sequencing and phylogenetic. The infection was confirmed by nested-PCR; amplicons of about 1.2 kb were obtained from all DNA samples from symptomatic plants. The *in silico* RFLP analysis generated patterns identical among PWB samples and showed a relationship of this phytoplasma to Pigeon pea witches' broom group (16SrIX-E). The 16S rDNA sequence, obtained from the R16MF2/MR2 and R16F2n/R2 nested-PCR products of three phytoplasma strains, shared 99% similarity with 'Candidatus Phytoplasma phoenicium' isolate PEYc2 (GenBank accession: JX857827) and Periwinkle virescence phytoplasma strain NAXOS (GenBank accession: HQ589191). The virtual RFLP pattern indicated a similarity coefficient of 0.98 with 16Sr group IX-E (GQ925918), suggesting that the PWB phytoplasma may represent a new member within this group. In the best of our knowledge, this is the first report of a phytoplasma infecting the pea plants in Iran.

Biography

Maryam Ghayeb Zamharir has completed her study in Plant Diseases Department at Iranian Research Institute of Plant Protection, Agricultural Research, Education and Extension Organization (AREEO), Iran.