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Powdery mildew on common bean (*Phaseolus vulgaris* L.) in Northern Sinaloa, Mexico

Félix-Gastélum R., Maldonado-Mendoza I. E., Herrera-Rodríguez G., Martínez-Valenzuela C., Espinosa-Matías S., Cordero-Ramírez J. D. & J. C. Martínez-Álvarez (2011) Powdery mildew on common bean (*Phaseolus vulgaris* L.) in Northern Sinaloa, Mexico

Sydowia 63 (2): 169–182

Powdery mildew of beans is a disease in Northern Sinaloa state in Mexico, however, the identity of the causal agent, which is an obligate parasite, has not yet been elucidated due to lacking formation on its teleomorph. The objective of this study was to identify the causal agent of the disease through morphometric studies of the anamorph, and molecular techniques based on the ITS (internal transcribed spacers) region of the ribosomal DNA. We collected ten samples of different bean varieties that exhibited symptoms of the disease in the Fuerte Valley during the 2006-2007 fall/winter growing season. Morphological characteristics of the anamorph and the molecular phylogenetic analysis revealed that the causal fungus belongs to the mitosporic genus *Oidium* subgenus *Pseudoidium*. All samples had conidiophores of the *Pseudoidium* type, whose conidia were mainly cylindrical, and when partially collapsed, their walls showed longitudinal wrinkling, except on their ends, where the wall appeared almost smooth. Phylogenetic analysis of the ITS1-5.8S-ITS2 rDNA region revealed that our collections of powdery mildew of beans are closely related to specimens of *Erysiphe diffusa* associated with soybeans and to an *Erysiphe* sp. associated with *Phaseolus vulgaris*.

Key words: anamorph, electron microscopy, morphology, fungal diseases, ITS rDNA

Sydowia

An International Journal of Mycology

Volume 63 (2) Issued December 31 2011

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Verlag Ferdinand Berger, Horn/Austria

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Print ISSN: 0082-0598
 Price Institutional: € 85,00
 Price Individual: € 72,60

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