## KURZMITTEILUNGEN

## Host Range of Two Protomycopsis Species from India

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Protomycopsis patelii PAVGI & THIRUMALACHAR, the incitant of angular black spot of *Phaseolus mungo* L. (PAVGI and THIRUMALACHAR 1953) and *Phaseolus radiatus* L., and *Protomycopsis thirumalacharii* PAVGI inciting purple leaf spot of *Sesbania grandiflora* PERS. (PAVGI 1965) are of common occurrence in Varanasi and surrounding areas. The pathogens develop thickwalled, resting chlamydospores within the mesophyllar interspaces of leaflets. Inoculation studies with culture isolates of the two pathogens were made to determine their host range.

Twenty-three plant species <sup>1</sup>) including Crotalaria triquetra DALZ., Phaseolus mungo L., Phaseolus radiatus L., Sesbania grandiflora PERS. and Smithia sensitiva AIT. were grown in the pot house in early July in soil mixed with diseased host debris from the previous season. Five plants of each host species were separately spraved 40 and 60 days after sowing with a culture suspension of uniform density from plated colonies of the two pathogens grown on potato dextrose agar medium (PAVGI and HAWARE 1970). The inoculated plants were covered under moisture for 48 hrs to ensure successful infection, examined at intervals and final observations taken a month after the second inoculation (90 days). Only three plant species viz. Phaseolus mungo, P. radiatus and Vigna sinensis expressed susceptibility to Protomycopsis patelii and only Sesbania grandiflora to Protomycopsis thirumalacharii. All these have been the host plants of the pathogens in the field. Even other species of the host genera Phaseolus and Sesbania remained free from infection; both the *Protomycopsis* species exhibited a very limited host range and pathogenic specificity.

The collection of the fungus on *Phaseolus mungo* made at Jalgaon, Maharashtra, was misdetermined as *Synchytrium phaseoli* PATEL, KULKARNI & DHANDE (PATEL et al. 1949). RAMAKRISHNAN and SUBRAMANIAN (1952) listed it under *S. phaseoli* PATEL et al. and later

<sup>&</sup>lt;sup>1</sup>) Albizzia lebbek BENTH., A. stipulata BORV., Cajanus cajan (L.) MILLSP., Clitoria ternata L., Crotalaria juncea L., C., triquetra DALZ., Dolichos lablab L., Indigofera enneaphylla L., Lathyrus sativus L., Glycine soja BENTH., Phaseolus aconitifolius JACQ., P. lunatus L., P. limesis MACF., P. mungo L., P. radiatus L., P. sublobatus ROXB., P. vulgaris L., Pisum sativum L., Sesbania aegyptica PERS., S. aculeata PERS., S. grandiflora PERS., Smithia sensitiva AIT., and Vigna sinensis (L.) ENDL. et HAASKA.

SUBRAMANIAN and RAMAKRISHNAN (1956) sought to correct the name of the fungus as *Protomycopsis phaseoli* (PATEL et al.) SUBRAMANIAN & RAMAKRISHNAN. Since the original *Synchytrium phaseoli* WESTON from Columbia and Ecuador is a valid species and the specific epithet preempted, the former (*S. phaseoli* PATEL et al.) became a homonym. PAVGI and THIRUMALACHAR, finding the fungus belonging to a species of *Protomycopsis* MAGNUS, had rightly proposed it as *Protomycopsis patelii* PAVGI & THIRUMALACHAR nom. nov., later incorrectly proposed as *Protomycopsis phaseoli* (PATEL et al.) SUBRAMANIAN & RAMAKRISHNAN.

The synonymy now runs as below:

Protomycopsis patelii Pavgi & Thirumalachar. — Nature 172: 314—315, 1953.

Syn.: Synchytrium phaseoli Patel, Dhande & Kulkarni. - Curr. Sci. 18: 171, 1949. Nomen nudum.

Synchytrium indicum (PATEL et al.) KARLING. — Mycologia 45: 282, 1953. Protomycopsis phaseoli (PATEL et al.) SUBRAMANIAN & RAMAKRISHNAN: J. Madras Univ. 26: 367, 1956.

PRASAD et al. (1962) have lumped the species of Protomycopsis parasitizing Phaseolus mungo, P. radiatus, Vigna sinensis, Crotalaria triquetra and Smithia sensitiva under a single species Protomycopsis phaseoli (PATEL et al.) SUBRAMANIAN & RAMAKRISHNAN on the basis of dark, ashy grey spots on the host leaflets and convolute to warty exosporial surface of the chlamydospores. Morphology of the chlamydospores alone cannot be a distinctive character for separating taxonomic species of a pathogen. The cultures of P. patelii separately isolated from Phaseolus mungo and P. radiatus are identical and equally pathogenic on Vigna sinensis in another host genus in the fam. Leguminosae. Its inability to infect C. triquetra and S. sensitiva and develop chlamydospores within the host tissues suggests that Protomycopsis crotalariae JOSHI (1955) and P. smithiae THIRUMALACHAR, BHATT, PATEL & DHANDE (1956) are distinct enough taxonomically and cannot be merged with P. patelii (= P. phaseoli) as suggested by PRASAD et al. (1962). In view of the morphological similarity, the two species which are apparently host-specific are proposed to be accommodated as forma specialis under new combinations as Protomucopsis patelii f. spec. crotalariae (JOSHI) THIRUMALACHAR, PAVGI & HAWARE and Protomycopsis patelii f. spec. smithiae (THIRUMALACHAR, BHATT, PATEL & DHANDE) THIRUMALACHAR, PAVGI & HAWARE.

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