

## **Study of the damage of two-spotted mite *Oligonychus* spp. on *Gliricidia*, and characterization of a fungus *Rhizopus* spp. infecting the mite**

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Mites are severe pests of crops and are difficult to manage when their population is very high supported by the changing environmental conditions. Rising of temperature in the atmosphere may help to increase the population of mites, and therefore, natural mechanisms are needed to be identified to manage such pests and to establish sustainable management tactics. This may minimize unnecessary use of pesticides in the ecosystem. The present qualitative study is carried out to describe the damage of the two spotted mite, *Oligonychus* sp on the fodder crop, *Gliricidia* sp. and to characterize the subsequent natural infection of a fungus on this mite. *Oligonychus* spp with the characteristic two spots on its idiosoma was found damaging on leaves of *Gliricidia* sp. The chlorophyll in all the leaves of *Gliricidia* was scrapped out and the leaves looked white/bleached due to severe feeding. The removed exoskeleton of the mite was also found adaxial surface of the leaf. Careful examination of the cadavers of mite at the laboratory revealed an infection of a fungus on *Oligonychus* sp. fed on *Gliricidia* leaves. The fungus profusely produced whitish mycelium in PDA. The hyaline, aseptate cottony mycelia produced unique dark sporangiophores and sporangia. Mycosis development was prudent on all stages of the mites and proliferation of mycelium was found on the body of the mites. Subsequent examination in the laboratory confirmed the infectivity of the fungus on the mites. Microscopic examination of aerial growth revealed numerous sporangia-bearing sporangiophores arising directly opposite to the rhizoids. The morphological characteristics of the isolated fungus from the diseased cadavers of *Oligonychus* sp. mites were used and diagnosed the fungus as *Rhizopus* sp. This fungal infection on the mite reveals the existence of natural mechanism of control of pests if the ecosystem is undisturbed and suitable environment prevails.

**Keywords:** Acaropathogenic fungus, *Gliricidia* leaf damage, *Oligonychus*, two-spotted mite.

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