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Report on the occurrence of sweet potato bug, *Physomerus grossipes* Fab. (Hemiptera: Coreidae) on dwarf *Mussaenda*, *Mussaenda glabra* in Gujarat

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Abstract

A study was conducted to identify the new pest observed infesting dwarf mussaenda plant grown nearby college farm, Anand Agricultural University, Jabugam during September, 2018. For further study, nymphs and adults brought to the laboratory of Department of Entomology, College of Agriculture, Anand Agricultural University, Jabugam for identification. Based on the morphological characters of the nymph and adult as well as DNA fingerprinting, it is confirmed that the pest is *P. grossipes* which is a new pest on *M. glabra* and first time reported from Gujarat, India.

Keywords: Dwarf mussaenda, *Mussaenda glabra*, *Physomerus grossipes*, occurrence, Gujarat

Introduction

Sweet potato bug, *Physomerus grossipes* (Hemiptera: Coreidae) is pest of sweet potato, banana and related species (Ames *et al.* (1997) ^[1], Hassan *et al.* (2016) ^[2] Padmanaban *et al.* (2016) ^[4]). It's laid their eggs on most of leguminosae and convovulaceae plants. The pest was also reported from several species of *Ipomoea* (*Ipomoea aquatic*, *I. triloba*), Vine spinach (*Bacilla rubra*), cowpea, butterfly-pea and common beans (Hassan *et al.* (2016) ^[2]). The nymphs and adults were aggregate on particular plants species and suck the plant sap and caused wilting and stunting. In Gujarat, the bugs were seen dwarf mussaenda, *Mussaenda glabra* grown nearby college farm, Anand Agricultural University, Jabugam during September, 2018. For further study, nymphs and adults brought to the laboratory of Department of Entomology, College of Agriculture, Anand Agricultural University, Jabugam for identification. Based on the morphological characters of the nymph and adult as well as DNA fingerprinting, it is confirmed that the pest is *P. grossipes* which is a new pest on *M. glabra* and first time reported from Gujarat, India. Looking to the review of literature from available source, it found that there is no previous record found on dwarf mussaenda infesting *P. grossipes*.

For molecular characterization adult specimens were used for DNA extraction. Genomic DNA was isolated by using DNA extraction kit (HIMEDIA Hipur ATM Insect DNA Purification Kit, Cat. MB529, India). PCR amplification of COI (cytochrome oxidase subunit I) gene was performed by following the standard protocol (Hebert *et al.*, 2003). Primers used for amplification were: forward primer (LCO1490 5'-GGTCAACAAATCATAAAGATATTGG-3') and reverse primer (HCO2198 5'-TAAACTTCAGGGTGACCAAAAAATCA-3'). The amplified products were sequenced by capillary sequencer ABI-3130. Gene sequence was checked for homology by using NCBI-BLAST (Hebert *et al.*) ^[3].

Physomerus crassipes COI gene sequence (Gen Bank: MH423248.1)

ATCTATAAGATGAATTATCCGGGTAGAACTAGGACAACCTGGGCCCTTTATTGGT
AATGACCAAATTTATAATGTTATCGTAACAGCCCATGCATTCATTATAATTTCTTT
ATAGTTATACCTATCATAATTGGAGGATTTGGTAATTGACTAGTACCCTTAATAAT
TGGAGCTCCAGATATAGCATTTCACGTATAAATAATATAAGATTTTGATTATTAC
CACCATCACTAACACTGTTATTAAGAAGAAGAATAGTAGAGATAGGAGCTGGAAC
AGGATGAACAGTTTATCCTCCCCTATCAAGTAATCTATCTCATAGAGGAGCTTCTG
TTGATCTAGCTATCTTTCCCTACACTTAGCAGGAATCTCATCAATTTTAGGGGCA
GTTAATTTTATCTCTACAATCATAAACATGCGTCCAGTAGGTATAATTCTGAACG

AACCCATTATTTGTTTGGTCAGTAGGAATTACAGCC
TTATTATTATTATTGTCATTACCCGTATTAGCAGGAG
CCATTACTATATTATTAACCGATCGAAATTTCAATAC
ATCTTTCTTTGACCCTACAGGAGGAGGAGATCCTATT
TTATATCAACACCTATTCTGATTTTTTGG



Fig 1: Aggregation of sweet potato bug, *Physomerus grossipes* Fab. adults on dwarf mussaenda, *Mussaenda glabra*

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