



RESEARCH NOTE

First report of *Spodoptera litura* Fabricius (Lepidoptera: Noctuidae) on Waterlily from Karnataka

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ABSTRACT: Waterlily (*Nymphaea* spp.) is an important aquatic ornamental plant cultivated in shallow water bodies under warm climatic conditions. During field observations, severe damage to foliage and flower buds was recorded, characterized by scraping, defoliation and boring symptoms caused by caterpillars. The insect responsible for the damage was identified as the tobacco cutworm, *Spodoptera litura*. Infestation resulted in considerable deterioration of plant appearance and floral quality. To the best of our knowledge, this is the first documented report of *S. litura* infesting waterlily in Karnataka, highlighting a new host association and the need for monitoring this pest in aquatic ornamental ecosystems.

Keywords: Waterlily, *Nymphaea* spp., new host, tobacco cutworm, *Spodoptera litura*

Waterlily (*Nymphaea* spp. Family: Nymphaeaceae; order: Nymphaeales) is an aquatic annual or perennial herbaceous plant which grows well in shallow, murky water in warm climate. The roots, stem and leaf stalks are submerged, while the leaves and vibrant flowers remain above the surface of water (Karthika *et al.*, 2022). Waterlilies bloom in warm weather conditions generally from late spring to summer months. The bold and beautiful flowers, with wide spectrum of colours, have made this plant to gain an important place in aquatic ornamental gardening. It is a popular choice for landscaping especially in garden ponds, pools and containers, where it serves as an attractive decorative element which is also being commercially cultivated for domestic and religious purposes. The plant also has potentiality in mitigating polluted aquatic environment. Apart from this, it has long history as an ayurvedic herb in traditional medicine (Kiranmaiet *al.*, 2023). The massive foliage and beautiful flowers of waterlily are attacked by several insect pests affecting the display life of flowers and leaves on plant. The major pests include aphids, bulb mites, beetles, thrips, weevils, slugs, snails and symphyliids which cause direct damage to flowers, leaves and bulbs (Reddy, 2016). There are hardly any researches on insect pest complex of waterlily. Looking into this insect pest problem, an investigation was undertaken at College of Agriculture, Shivamogga (14.1°N latitude, 75.42°E longitude and

650 m above MSL), Karnataka, India on waterlilies which were planted in plastic tubs and monitored its damage periodically. It was observed that the foliage was scraped and fed by the caterpillar (Fig.3) and also bored into the flower buds. Upon careful observation, the pest was identified as tobacco cutworm, *Spodoptera litura* Fabricius (Lepidoptera: Noctuidae). It is one of the most important insect pests of agricultural crops and also found to feed on other ornamentals such as rose, jasmine, dahlia (Ahmad *et al.*, 2013). The eggs of this pest were found on the upper surface of the leaves in clusters, covered with the tuft of abdominal hairs of the moth (Fig.1).

Early instar larvae were light green in colour (Fig. 2) and caused damage by scraping the leaf surface. Later instar larvae were dark brown to black with a distinct bright yellow dorsal stripe (Fig. 5). These larvae fed voraciously, resulting in complete defoliation of leaves (Fig. 4). In addition to foliage damage, flowers were also attacked by the caterpillars (Fig. 6). Several larvae were observed feeding on leaves as well as within emerging buds of waterlilies. The adult moth was nocturnal in habit with the body greyish brown in colour (Fig. 7). To the best of our knowledge, this is the first documented report of *S. litura* infesting waterlily in Karnataka, highlighting a new host association and the need for monitoring this pest in aquatic ornamental ecosystems.



Fig. 1. Egg mass on upper surface of leaves



Fig. 2. Early instar larva



Fig. 3. Scraping symptoms on the leaves



Fig. 4. Extensive damage on leaves



Fig. 5. Late instar larva

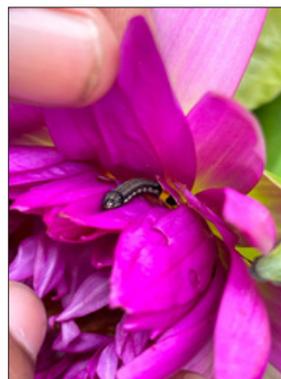


Fig. 6. Larva feeding on flower



Fig. 7. Adult moth of *Spodoptera litura*

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AUTHOR CONTRIBUTIONS

BVC, JNH and AB - conceptualized and planned the research work and guided the student, JNP - experimentation and analyses. RD and ST assisted in the research work and preparation of the manuscript.

CONFLICT OF INTEREST

Authors don't have conflict of interest.

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