FIRST REPORT OF ACANTHOCORIS SCABRATOR (COREIDAE) AS A PEST OF VEGETABLES IN INDIA

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ABSTRACT

In this study, a coreid bug Acanthocoris scabrator (Heteroptera: Coreidae) is reported as a pest of Capsicum annuum, C. frutescens, Ipomoea aquatica, I. batatas and Solanum melongena from Kerala, India. No acute symptoms such as drying up or wilting was observed either on Solanum melongena or Capsicum spp.; however, on I. aquatica and I. batatas, water-soaked lesions were observed around the feeding punctures on the tender stem. This is a new record of this pest from Andaman and Nicobar Islands.

Key words: Acanthocoris scabrator, Coreidae, host plants, Capsicum annuum, Capsicum frutescens, Ipomoea aquatica, Ipomoea batatas, Solanum melongena, Andaman Islands, new record, Kerala, vegetables, pest

Acanthocoris scabrator (Heteroptera: Coreidae) was described by Fabricius in 1803 based on specimens from Malaysia and Sumatra. It is widely distributed in the Oriental region and adjoining areas such as Sri Lanka, India, Myanmar, Malaysia, Indonesia, the Philippines, south China and Japan (Distant, 1902; Hoffman, 1928; Dolling, 2006). Dolling (2006) opined that “records of Acanthocoris scabrator from China are possibly erroneous and referable to Acanthocoris scaber if the species are truly distinct.” Plants reported as host for A. scabrator include Punica granatum L. in Japan (Hoffman, 1928); Capsicum annuum L., Capsicum sp., Cestrum nocturnum L., Cucurbita maxima Duchesne, Ipomoea sp. (morning glory), Physalis peruviana L., Solanum melongena L., Solanum nigrum L. and S. torvum in China (Hoffman, 1931); S. aculeatissifolium Jack (Solanum aculeatissimum Jacq.) (Miller, 1931), I. palmata Forsk., I. batatas Lam. (Miller, 1931, 1932) and Vigna unguiculata (L.) Walp. (Cowpea) (Miller, 1932) in Malaysia; and Lantana (Rao, 1920), I. carnea Jacq. and Mangifera indica L. (Koshy et al., 1977, 1978) in India. Biology of the insect was studied by Hoffman (1928) in China, Miller (1931) in Malaysia and Koshy et al. (1977) in India. Herein, this coreid is reported as a pest on vegetables from Kerala for the first time in India.

MATERIALS AND METHODS

Infestation of A. scabrator on different species of vegetables was observed by the first author in 2012 in Kerala, India. The insect was identified based on the description provided by Distant (1902). This was further confirmed based on the images of a syntype. Specimens of A. scabrator were collected from different states in mainland India as well as the Andaman & Nicobar Islands. Symptoms and nature of damage due to the pest were recorded on different vegetable crops. Intensity of infestation was recorded on Capsicum annuum at Manacaud, Trivandrum, Kerala in 2020. Voucher specimens of the bug are deposited in the Travancore Insect Collection, College of Agriculture, Vellayani, University of Agricultural Sciences, Bengaluru (UASB) and the National Bureau of Agriculturally Important Insects (NBAIR), Bengaluru (Accession no. NBAIR/HET-COR/5121 to NBAIR/HET-COR/5125). Plant vouchers of C. annuum (Accession no. 6761), C. frutescens L. (Accession no. 6760), I. aquatica Forssk. (Accession no. 7017, 7018) and S. torvum (Accession no. 6473) are deposited in the Calicut University Herbarium.

RESULTS AND DISCUSSION

Infestation of A. scabrator was observed on brinjal S. melongena, chilli C. annuum, Tabasco Pepper (Cayenne pepper) C. frutescens L., sweet potato I. batatas and water spinach I. aquatica in Kerala, south India. Infestation on C. annuum and C. frutescens has been noticed at Tirurangadi (N 11° 02’ 14.3” E 75° 55’ 27.8”), Kerala since 2012. Heavy population of the bug was
observed on brinjal at Malayinkeezhu in Trivandrum (8° 30’ 34.8” N 76° 59’ 48.5” E) in April 2018. On 25 May 2020, *A. scabrator* was observed on *C. annuum* at Manacaud in Trivandrum District (N 8° 27’ 32.62572” E 76° 56’ 51.02664”). Infestation was observed on six plants of *C. annuum* ranging from 5 to 27 adults and nymphs (mean 15.3). The maximum infestation observed on a plant was 9 adults and 18 nymphs. Bugs were also collected on *I. carnea* at Tirurangadi (N 11° 02’ 14.3” E 75° 55’ 27.8”) and on *S. torvum* Sw. at Pampadumpara (N 09° 48’ 23.7” E 77° 10’ 04.9”). The bug was observed breeding on *I. batatas* and *I. aquatica* at Vellayani (N 08° 25’ 47.0” E 76° 59’ 8.3”). A single specimen was collected in the Little Andaman Island, Andaman and Nicobar Islands (N 10° 41’ 19.1” E 76° 43’ 25.1” 56 m). Specimens have also been collected from Karnataka in South India and Arunachal Pradesh and Manipur in northeast India.

Adults and nymphs congregated on the stem and sucked sap. (Fig. 1-5). Apparently, no acute symptom, such as drying up or wilting, was observed on either brinjal or chillies. On *I. aquatica* and *I. batatas*, water-soaked lesions were observed around the feeding punctures on the tender stem. *Acanthocoris scabrator* is known as a pest of *S. melongena* and *Capsicum annuum* in China and *I. batatas* in Malaysia, however, this is the first report of the bug on these vegetables in India. This is also the first ever record of *A. scabrator* on *C. frutescens*, and *I. aquatica*. Chen (1983) reported the closely related *A. scaber* (L.) on *C. frutescens* in China. Presence of the bug in the Andaman and Nicobar Islands is recorded for the first time.

**Material examined:** India. Kerala: 1♂, 3♀ Vellayani, N 08° 25’ 47.5”, E 76° 59’ 8.3”, 27.viii.2018, Prathapan & Sangamesh Coll., Ex *Ipomoea* sp.; 1♀, same data except host *Ipomoea* batatas; 5♂, 9♀ Malayankeezhu, 8° 30’ 34.8” N 76° 59’ 48.5” E, 28.iv.2018, SR Hiremath & Prathapan, Ex Brinjal; 2♂, 2♀ same data except host Chilli; 2♂, 2♀ Pampadumpara, 24.x.2015, Prathapan KD Coll., Ex *Solanum torvum*; 1♂ same data except host *Ipomoea*; 1♂, 2♀ same data without host (sweep net); 1♂, 2♀ Chittur, 10° 41’ 19.1”N 76° 43’ 25.1”E, 15.v.2018 112 m, Shameem KM Coll., Ex *Ipomoea carnea*; 2♂, 1♀ Tirurangadi, 28.ix.2012, Shameem K Coll., Ex Chilli; 2♀ same data except date 19.x.2012; 2♂, 1♀ same data except date 1.xi.2012; 1♀ same data except date 20.xi.2012; 3♂ same data except date 29.xi.2013; 1♀


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AUTHOR CONTRIBUTION STATEMENT

KMS first observed the pest; collected specimens, made biological observations, preparation of the manuscript; SRH collected specimens, prepared plate, gathered biological data; writing up of the manuscript; KDP identified the insect, collected specimens, made observations; writing up of the manuscript.

CONFLICTS OF INTEREST

Authors declare no conflict of interest.

REFERENCES


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