Nesting activity of the predatory wasp, *Carinostigmus costatus* Krombein (Sphecidae: Hymenoptera) in pithy stems of *Caesalpinia pulcherrima* (L.) and its natural regulation of the population of fennel aphid, *Hyadaphis coriandri* (Das)

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The predation of aphid hunting wasp, *Carinostigmus* sp. on fennel aphid, *Hyadaphis coriandri* is reported from India. The solitary wasp was molecularly identified as *Carinostigmus costatus* (NCBI Accession No. OQ913733.1). The wasp constructed its nest in the pithy stems of *Ceasalpinia pulcherrima* (peacock flower) provisioning fennel aphid, *H. coriandri*. There was a decrease in the population of the fennel aphid, *H. coriandri* with an increase in the nesting activity of the solitary wasp, *C. costatus*. Our study indicated that the solitary wasp, *C. costatus* could be easily conserved by providing pithy stems of *C. pulcherrima* as nesting habitats around the field borders for natural regulation of aphid infesting fennel.

Keywords: Aphid predation, *Carinostigmus costatus*, *Hyadaphis coriandri*, nesting activity.

L., *Cheilomenes sexmaculatus* (F) and *Hippodamia convergens* were the most predominant predators reported to naturally occur feeding on *H. coriandri* in India[3]. Several predators, viz. spotless ladybird beetle, *Cycloneda sanguinea* (L.), *Scymnus* spp., green lacewing, *Chrysoperla carnea* (Stephens) in fennel were reported[4]. Natural incidence of larvae of five different species of syrphids belonging to the family Syrphidae, viz. *Ischiodon scutellaris*, *Episyrphus balteatus*, *Betasyrphus linga*, *Dideopsis agerota* and *Paragus serratus* against *H. coriandri* in fennel was reported[5].

Fennel is an eco-feast crop that supports the natural proliferation of several natural enemies like Braconidae, Coccinellidae, Chysopidae, Syrphidae and Vespidae[6]. In the present study, we observed foraging of the adult female aphid hunting wasp belonging to the genus *Carinostigmus* in the fennel crop severely infested with *H. coriandri*. *Carinostigmus* sp. is an aphid-hunting solitary wasp