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RESEARCH NOTE

Report of invasive thrips species, *Thrips parvispinus* (Karny) (Thripidae: Thysanoptera) on *Dahlia rosea* (Asteraceae) in Karnataka

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ABSTRACT : *Dahlia rosea* Cav. has been reported as new host for the quarantine thrips, *Thrips parvispinus* (Karny). The occurrence of this invasive pest on an ornamental plant which is export oriented raise serious threats and is an apprehension for quarantine authorities. It is imperative that the quarantine mechanisms within the country need to be strengthened so as to prevent the spread of this invasive thrips from Karnataka to other parts of India.

Keywords : Karnataka, New host, Invasive thrips, *Thrips parvispinus*.

The genus *Thrips* is one of the largest genera of the insect order Thysanoptera in the family Thripidae, with 295 species worldwide (Thrips Wiki, 2017), of which 44 species are reported from India (Rachana and Varatharajan, 2017). A number of species of this genus are important pests causing damage directly by feeding and egg laying or indirectly by vectoring different pathogenic tospoviruses on economically important crops (Marullo and Mound, 2002). They pierce and suck the sap from different parts of the plant by their well developed left mandible. The gravid females oviposit the eggs in to the plant tissues with the help of saw like ovipositor (Ananthakrishnan, 1984). Their role as pollinators of various tropical and subtropical crops are also well documented (Varatharajan *et al*., 2016). As insect vectors, thrips are sole transmitters of Tospoviruses (genus Tospovirus, family Bunyaviridae) affecting a number of plant species belonging to unrelated plant families across the globe (Riley *et al*., 2011).

Thrips parvispinus (Karny), which is designated as one of the pest species of South East Asia, is a serious pest on a number of agricultural and horticultural crops of important plant natural orders. *T. parvispinus*, a member of "*Thrips orientalis* group" (Mound, 2005), is a widespread pest species of quarantine importance and has been documented from Thailand to Australia (Mound and Collins, 2000). It is reported on papaya in Hawaii, *Gardenia* sp. in Greece, vegetable crops like Capsicum, green beans, potato, and brinjal from other countries (Murai *et al*., 2009). Occurrence of this species in India has been first reported by Tyagi *et al*., (2015) on papaya from Bangalore. During the recent survey carried out in Karnataka, six females of *T. parvispinus* were collected from the flowers of *Dahlia rosea* Cav. (Asteraceae) in Puttur, Karnataka (Coll. Roselin, P.). *D. rosea* is a common garden plant which is known to harbour yet another vector *Thrips palmi* (Shyam and Varatharajan, 2011). As this plant hosts *T. parvispinus,* it becomes imperative to know about *T. parvispinus* which is already known for its quarantine importance. Therefore, the primary objective of this article is to report the new host record of *T. parvispinus.* Specimens of *T. parvispinus* were collected at random by the standard beating method and were preserved in thrips collecting media (9 parts 10% alcohol + 1 part glacial acetic acid + 1 ml Triton X-100 in 1000 ml of the mixture). These individuals were mounted in Canada balsam for permanent preservation and subsequently sorted out and identified using appropriate keys (Mound, 2005). The following features segregate *T. parvispinus* from other known species of the genus *Thrips*, especially which

Plate 1. Adult of *Thrips parvispinus*

falls within *T. orientalis* group (Plate. 1),

a. Ocellar pair III at the anterior margin of ocellar triangle; postocular setae III shorter than postocular setae I and IV.

b. Metanotum reticulate medially; median setae long and placed well behind the anterior margin; campaniform sensilla absent.

c. First and second vein of forewing with continuous row of setae.

d. Posterior margin of tergite VIII without comb.

e. Abdominal sternites III–VI with discal setae, but absent on II and VII.

The occurrence of this invasive pest on an ornamental plant which is export oriented raise serious threats and is an apprehension for quarantine authorities. It is imperative that the quarantine mechanisms within the country need to be strengthened so as to prevent the spread of this invasive thrips from Karnataka to other parts of India. Systematic monitoring of *T. parvispinus* in other parts of India is also essential as it may attain pest/vector especially within the territory of our country. Unless effective quarantine measures are taken at this juncture, the spread and subsequent depredations of economically crops becomes inevitable, considering the polyphagous nature of this thrips species.

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