

***Panchaethrips indicus* BAGNALL, A NEW PEST RECORD FROM PENINSULAR MALAYSIA, COLLECTED ON LEAVES OF *Zingiber officinale* Rosc. var. Bentong**

Ng, Y.F.^{1*}, Yong, H.S.² and Mound, L.A.³

¹Centre for Insect Systematics,
Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia.

²Institute of Biological Sciences,
University of Malaya, 50603 Kuala Lumpur, Malaysia.

³Australian National Insect Collection, CSIRO, Canberra,
ACT 2601, Australia.

* Corresponding author: ng_yf@ukm.edu.my

ABSTRACT

The Old World genus *Panchaethrips* are currently comprises seven species and distributed between Africa, Asia and Australia. Some species were reported as important pest of coffee, arrowroot, banana and turmeric. In this paper, *Panchaethrips indicus*, previously known only from India is newly recorded from Peninsular Malaysia, collected on leaves of *Zingiber officinale* Rosc. var. Bentong. The description is indicating the *P. indicus* from the specimen taken from Malaysia.

Keywords: Thysanoptera, pest, new record, Peninsular Malaysia.

ABSTRAK

Buat masa kini, genus *Panchaethrips* dari Dunia Lama terdiri daripada tujuh spesies yang bertabur di antara Afrika, Asia dan Australia. Beberapa spesies telah dilaporkan sebagai perosak penting pada tanaman kopi, ubi, pisang dan halia. Dalam kajian ini, *Panchaethrips indicus*, yang dahulunya berasal dari India, kini merupakan rekod baharu di Semenanjung Malaysia, dikutip pada daun *Zingiber officinale* Rosc. var. Bentong. Perihal *P. indicus* berdasarkan spesimen dari Malaysia telah dibuat.

Kata kunci: Thysanoptera, perosak, rekod baru, Semenanjung Malaysia.

INTRODUCTION

The subfamily Panchaethripinae consists of 140 species in 43 genera, including three fossil species (ThripsWiki 2018). More than half of the genera in this subfamily are monospecific (Mirab-balou et al. 2016), including the important pest species *Selenothrips rubrocinctus* (red banded thrips). The species of panchaethripines are generally leaf-feeders at all stages of their life cycle as they breed and pupate on leaves.

So far, 19 species of Panchaethripinae have been recorded from Peninsular Malaysia. This included 17 species listed by Mound & Azidah (2009) including the important Greenhouse Thrips (*Heliethrips haemorrhoidalis*) and the widespread Grass Thrips (*Phibalothrips rugosus*). *Retithrips javanicus* which was commonly collected in Malaysia on ligneous vine (*Combretum indicum*) was added by Ng (2014), and here we report a second species of *Panchaethrips* from Peninsular Malaysia. This species was collected in large numbers on the leaves of *Zingiber officinale* Rosc. var. Bentong from a greenhouse farm in Behrang Perak in November 2017.

Therefore, the objective of this study is to record the pest species on leaves of *Zingiber officinale* Rosc. var. Bentong, *Panchaethrips indicus* from Peninsular Malaysia by presenting the species key and species redescription.

MATERIAL AND METHODS

Species Sampling

Thrips were randomly collected on leaves of *Zingiber officinale* Rosc. var. Bentong from Behrang, Perak and Tasik Chini Pahang using an active sampling.

Species Mounting and Species Identification

The mounting method was modified from Bisevac (1997) by referring to Tan et al. (2016). The specimens also were identified using the species description referring to Bagnall (1912).

RESULT AND DISCUSSIONS

Key of species from this genus from Malaysia and the redescription of the species *Panchaethrips indicus* Bagnall presented.

Key To Species of *Panchaethrips* From Malaysia

1. All tibiae brown with apex yellow; antecostal line on abdominal tergites I-VIII with microtrichia; first postocular seta arising near posterior margin of eye *holtmanni*
2. All tibiae brown with apical third yellow; antecostal line on abdominal tergites I-VII fine and smooth; first postocular setae arising in area between posterior ocellus and eye.....*indicus*

Panchaethrips indicus Bagnall (Figs 1–5)

Female macropterous. Body brown, head, pronotum and abdominal tergites uniformly brown; all legs bicoloured brown, femora and tibiae pale in apical third, all tarsi pale; antennal segments bicoloured, I–II brown, III–V with apical third darker (Fig. 3); segment VI uniformly brown, VII–VIII paler than VI; fore wing brown with triangular pale area in basal third (Fig. 5). Head wider than long; ocellar setae I absent; II and III in tangent, III arising outside ocelli triangle area; two pairs of postocular setae, first postocular setae arising in area between posterior ocellus and eye; mouth-cone short not extending beyond posterior margin of pronotum, maxillary palps 2-segmented; facets of compound eyes continuous and without pigment; ocellar triangle area and vertex reticulate, reticles without internal markings. Antennae 8-segmented, segment I without dorsal apical setae, II without CPS, segment III and IV with simple sense cone, extending about half the length of its adjacent segment. Pronotum wider than long, without major setae on posteroangular margin; with transverse lines sculpture (Fig. 2). Metanotum with reticulate sculpture medially, lateral area with

irregular longitudinal lines, median setae far behind anterior margin, submedian setae situated near anterior margin, without CPS. Mesosternum with about 14 fine setae, endofurca with spinula. Metasternum endofurca without spinula. Fore wing costal seta long, the longest about 3 times the wing width, first vein with long stout setae, second vein without any setae; all tarsi 2-segmented; Abdominal tegites II–IV median seta (S1) small and shorter at about 0.5 time the length of submedian seta (S2); antecostal line on abdominal tergites I–VII fine and smooth, tergite X long with a complete longitudinal dorsal split (Fig. 4). Male colouration similar to female (Fig. 1). Abdominal tergites VII and VIII longest and both segments about subequal. Abdominal sternites III–VII each with a transverse pore plate (Fig. 1).

Material studied: Peninsular MALAYSIA. **Perak: Behrang.** Large number of specimens were collected on *Zingiber officinale* Rosc. var. Bentong, 27.xi.2017 (Ng, Y.F.) (in CISUKM). **Pahang: Tasik Chini.** 1 female, unknown host, 12.vii.2014 (Ng, Y.F.) (in CISUKM).

Distribution: Madras, India and Peninsular Malaysia, Malaysia

Remarks: *Panchaetothrips indicus* was described from India and has been known as an important pest of turmeric (*Curcuma longa*), arrowroot (*Maranta arundinacea*) and bananas in India (Wilson 1975). It is widely distributed in northern and southern India and probably north-east, with the highest altitude recorded at 1300 meter (Tarunkumar Singh et al. 2004). Both larvae and adults of *P. indicus* feed on the lower surface of tender leaves, causing curling and dying of leaves that subsequently results in ill-developed rhizomes of turmeric (Vasantharaj David & Ananthakrishnan 1976)

The species *P. indicus* is closely related to *P. holtmanni* as both share a few characteristics such as seta S1 on abdominal tergite II shorter or just about 0.5 time the length of S2, and antennal segments III–IV with simple sense cone. However, these species can be distinguished with the key provided below.

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APPENDICES



Figures 1–5 *Panchaetothrips indicus*: (1) Male; (2) Female, head and thoracic segments; (3) Antennal segments I–VIII; (4) Female abdominal tergites II–VII; (5) Fore wing.