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NEOHYDATOTHRIPS ILAMENSIS N. SP. (INSECTA: THYSANOPTERA): A NEW SPECIES FROM IRAN

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Abstract – Neohydatothrips ilamensis n. sp. (Thripidae: Sericothripinae) that was collected on the flowers of chickpea, *Cicer arietinum* L. (Fabaceae), is described as a new species in the genus *Neohydatothrips* John. This is the fourth species of this genus to be recorded in Iran.

Key words: Sericothripinae; *Neohydatothrips*; chickpea; Iran.

INTRODUCTION

Worldwide, 152 species of Sericothripinae (Thysanoptera: Thripidae) are recognized, in three genera. Amongst them, the genus *Neohydatothrips* John is the largest, with 103 described species (ThripsWiki, 2013). *Neohydatothrips* species are all phytophagous, feeding and breeding on leaves or flowers, but few are reported as pests. One of them, *N. samayunkur*, is widely distributed in Asia, Central and South America, and Australia (Nakahara, 1999), and can cause damage on marigolds, *Tagetes* spp. (Asteraceae) (Monteiro et al., 1999). *N. pseudoannulipes* is also recorded as infesting marigolds in the New World (Mound et al., 1996); *N. burungae* is found on avocado in California or Central America (Hoddle, 2005), and it also causes distortion to young leaves of *Passiflora* in Colombia (Hoddle et al., 2012); *N. gracilicornis* is considered a pest on Pinaceae and Betulaceae in Spain and southern Italy (Marullo, 2009); *N. magnoliae* feeds on *Parakmeria yunnanensis* leaves in China (Zhang et al., 2012); and *N. flavicingulus* was recently described as a pest of *Manglietia fordiana* from China (Mirab-balou et al., 2013).

It appears that *Neohydatothrips* species can cause damage to their host plants, but in Iran, there is no information on the host plants of the recorded species. To date, three species of this genus have been recorded from Iran (Mirab-balou and Chen, 2013). Here, *N. ilamensis* n. sp. from western Iran, collected from the flowers of chickpea, *Cicer arietinum* L. (Fabaceae), is described and illustrated based on the male and female adult stage and the larva.

MATERIALS AND METHODS

Specimens were collected from Ilam province, western Iran, and mounted onto slides using the methods of Mirab-balou and Chen (2010). All descriptions, measurements and photos were made with a Leica DM IRB microscope, a Leica MZ APO microscope

with a Leica Image 1000 system, EVOS digital inverted microscope and a Nikon Y-IDT microscope with a Q-image CCD. All measurements are in micrometers. The type specimens are deposited in the collection of Department of Plant Protection, College of Agriculture, Ilam University, Iran (ILAMU).

RESULTS

TAXONOMY
NEOHYDATOTHRIPS JOHN
Neohydatothrips John, 1929: 33.

Description – Fore wing usually fully developed. Head wider than long; postoccipital apodeme situated variously, marking off a wide. Antennae 7- or 8-segmented; segments III and IV with forked sensoria. Mouth cone moderately long to short and conical. Pronotum with well-defined blotch area. Mesosternal spinula present. Metasternum with transverse line behind anterior margin, line medially with or without V-shaped emargination, usually with shallow emargination. Metascutum and scutellum partially or complete divided. Fore wing first vein with setal row complete, second vein with 0, 1, or 2 setae distally. Abdominal tergites and sternites densely covered with ciliate microtrichia at least laterally; tergites II-VII with median setae not similarly placed and not of similar size, on II-IV closer together, with length increasing gradually from anterior to posterior tergites. Abdominal sternites III-VII usually with 3 pairs of setae, inserted marginally, those on VII of female usually positioned anterior of posterior margin.

NEOHYDATOTHRIPS ILAMENSIS, NEW SPECIES
(Fig. 1 A-H)

Material examined – Holotype female: IRAN: near Ilam Airport, ILAM Province, from chickpea, *Cicer arietinum* L. (Fabaceae), 25.v.2013, coll. M. Mirab-balou, (in ILAMU); 3 females, 3 males, collected with holotype.

Etymology – This species is named after the type of locality (Ilam Province, IRAN).

Description – Female macroptera. Body brownish-yellow; dark brown on pronotal blotch, lateral of mesonotum, metascutum, antennal segments VI-VIII, anterior half of abdominal tergite VII and VIII; abdominal tergites II-VI with dark brown antecostal ridge divided in two lateral sides, medially with no color, also brown areas laterally on these segments behind antecostal ridges; antennal segments I-II yellowish-brown, segments III pale brown, IV-V brown with basal half of IV and one-third of V yellowish-brown; legs grayish-yellow with brown coxae, femora with brown ring in middle part, tibiae with very smooth brown color laterally; fore wings pale yellow with two brown bands sub-basally and near apex of wing, clavus with brown on half basal, distal half pale yellow.

Head wider than long, with closely spaced transverse lines within ocellar triangle, occipital apodeme not touching posterior margin of eyes (Fig. 1A), with three pairs of ocellar setae, pair III situated on ocellar triangle, with three pairs of long postocular setae. Antennae 8-segmented; segments II-VI covered with rows of microtrichia on both dorsal and ventral view (Fig. 1C). Mouth cone long, reaching to posterior margin of prosternum.

Pronotum transversely reticulate, without any markings between the major lines; pronotal blotch transversely striate, anterior margin concave smoothly, but deeply concave at posterior margin (Fig. 1B); pronotum with a pair of long posteroangular setae and one pair of shorter posteromarginal setae, anterior margin with three pairs of setae. Mesonotum with closely spaced striations, median long setae situated far from posterior margin; paired campaniform sensilla absent. Mesosternal spinula present. Metasternum connected in the middle with a T-shaped apodeme (Fig. 1G). Metanotum with linear reticulation, median long setae situated on anterior margin, metanotal campaniform sensilla absent (Fig. 1D). Fore wing second vein with no setae (Fig. 1H), clavus with four marginal setae and one discal seta.

Abdominal tergites II-VI with no marginal comb medially, tergite VII with small microtrichial comb

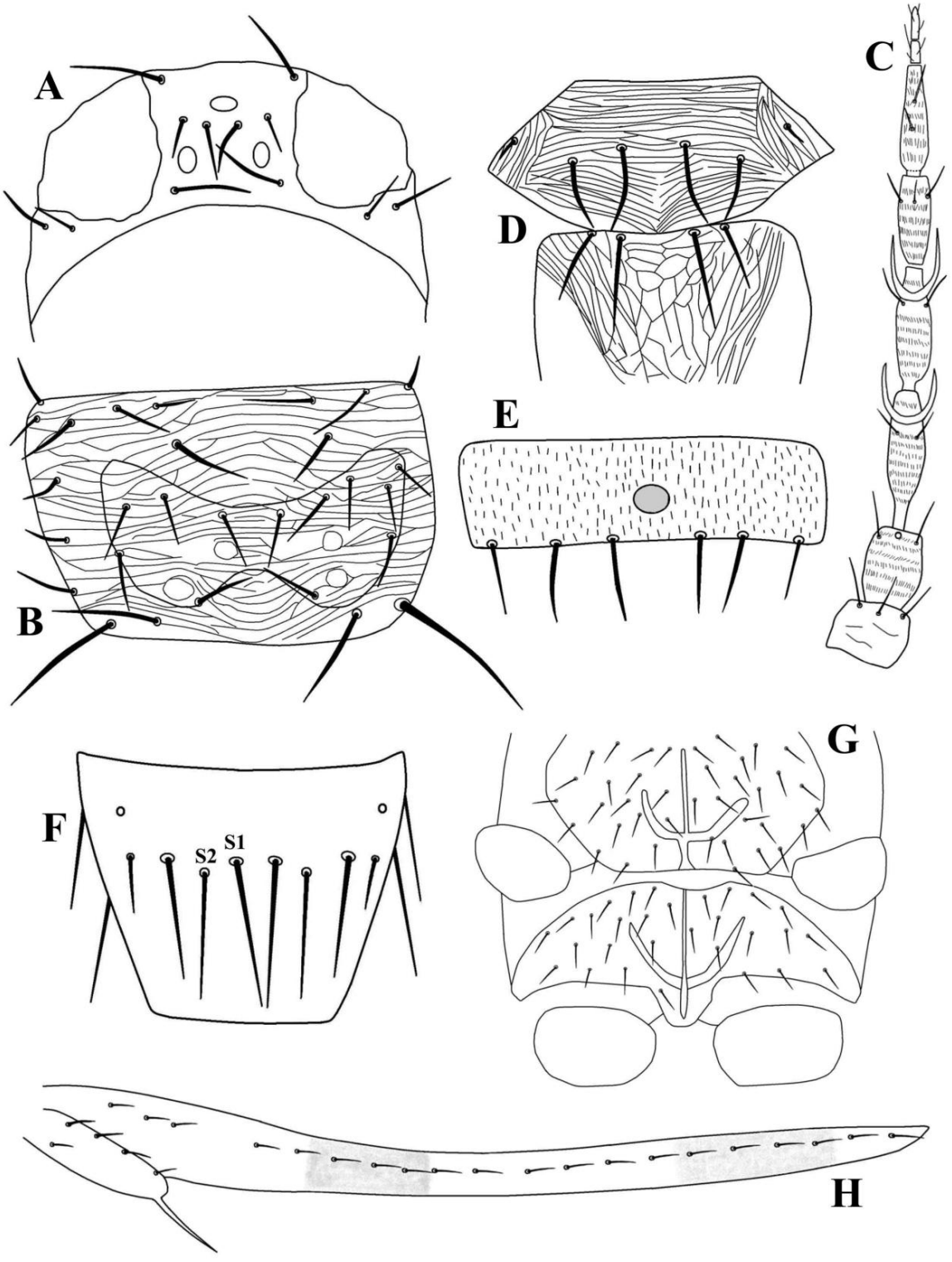

Fig. 1. *Neohydatothrips ilamensis* sp. n.: (a) Head; (b) Pronotum; (c) Antenna; (d) Meso- and Metascutum; (e) Abdominal sternite VII, showing pore plate; (f) Abdominal tergite IX, male; (g) Metasternum; (h) Fore wing.

medially but long and completed laterally, VIII with long and complete comb on posterior margin; tergites II-V with discal microtrichia laterally, smooth medially; tergites VI and VII with discal microtrichia laterally and extending medially near anterior margin, tergite VIII fully covered with microtrichia; tergites IX and X smooth, without discal microtrichia; tergal median setae situated on antecostal ridges. Sternites without discal setae, sternite VII with three pairs of posteromarginal setae rising in front of posterior margin; sternites fully covered with discal microtrichia. Ovipositor well developed.

Measurements – (Holotype female in microns) Length (width) – Body length 880-1020. Head, length 86; width across eyes 144. Pronotum, length 110; width 175; pronotal blotch median length 37, lateral length 67(130); posteroangular setae S1 34, S2 24. Metanotum median setae length 23. Fore wing length 660. Antennal segments I to VIII length (width) as follows: I 9.2(12), II 20(13), III 31(10), IV 27(10.7), V 21(8.7), VI 25(8.1), VII 3.8(3.1), and VIII 9.3(3.4). Ovipositor 180.

Male macroptera – Distended body length 0.8 mm. Similar to female in color and structure; abdominal tergite IX with setae S1 as long as S2, but situated in front of S2 (Fig. 1F); abdominal sternite VII with only small circular pore plate medially (Fig. 1E).

First instar larva – Body pale yellow to yellowish-brown, including antennae.

Second instar larva – Largely pale in color, except gray on head, pronotum, antennae, fore and middle tibiae; all body setae gray. Head weakly sculptured. Antennal segments III and IV with rows of microtrichia. Pronotum unsculptured. Abdominal tergites with transverse rows of dot-like on the surface.

Remarks – This new species is similar to *N. gracilipes* (Hood) but is easily distinguish by the well-developed pronotal blotch, and fore wings with two brown bands color. It is also distinct from other Iranian *Neohydatothrips* species in the following characters: no craspedum on posterior margin of abdominal tergites, occipital apodeme not touching posterior margin of eyes, mouth cone long, and male with only small circular pore plate medially on abdominal sternite VII.

Host plant – Chickpea, *Cicer arietinum* L. (Fabaceae).

Distribution – Iran (Ilam Province).

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