

\*FOUR NEW SPECIES OF THRIPS (THYSANOPTERA: THRIPIDAE)  
FROM MIDDLE OF IRAQ

Awatif Abdul-Fatah Hamodi\*\* and Mohammad Saleh Abdul-Rassoul\*\*\*

\*\*Department of Plant Protection, College of Agriculture, University of  
Baghdad, Baghdad - Iraq

\*\*\*Iraq Natural History Museum, University of Baghdad, Baghdad - Iraq

ABSTRACT

Four new species of Thrips (Thripidae) *Chirothrips imperatus* sp. nov. ; *Frankliniella megacephala* sp. nov. ; *Retithrips bagdadensis* sp. nov. ; *Taeniothrips tigridis* sp. Nov. ; from middle of Iraq, are described and illustrated with their hosts.

*Chirothrips imperatus* sp. nov.

Female, (Fig.1) 1.12 –1.14 mm. Color brown, head, thorax, antennae, legs and abdomen pale yellow. 3rd antennal segment paler shaded with a grayish, lateral pterothorax brown to pale orange. Head 75-79  $\mu$  in length, 100-104  $\mu$  width, eye 48-50  $\mu$  in length; anteocular setae very short, ocelli near at third part, check 13-14  $\mu$  in length, head extended at front (lengthens 13-15  $\mu$ ) between antennal bases. Antennae eight segmented, short, 2nd segment without prolonged external margin, 3rd segment with circular sides; sense cone on segments 3 and 4 simple, segments 3,4 and 5 constricted at base, appeared on steps, total antennal length 117-135  $\mu$ . Mouth cone short, reaching to prosternum, rounded at apex, maxillary palp three segments, labial palp two segments. Pronotum 141-143  $\mu$  in length, width 114-115  $\mu$  at anterior margin, 188-190  $\mu$  at posterior margin with 5-6 pairs of setae, and two setae on each posterior angle length 41-42  $\mu$ , with short setae between them about 10-12  $\mu$ . Fore femur and tibia elongated with few teeth on outer margin. Wing 669-671  $\mu$  in length pale reaching to 8th abdominal tergite, wing has 23-24 setae on costal margin, first vein with 4-5 (3 on basal wing), 3 on second vein. Pterothorax 231-236  $\mu$  in length. Abdomen long, cylindrical, constricted toward the tip, Posterior margin of abdominal segments 2- 8 provided with structure like teeth, comb absent on eighth segment, with a pair of setae on the tergium, inner seta 16-17  $\mu$  in length, outer 20-22  $\mu$ , the sense pore upper the inner setae, four pairs setae on ninth segment, that's on posterior margin 41-43  $\mu$ , the lateral 49-50  $\mu$  in length. Ten segment split above provided with four setae that's 73-75 - 7 2-75  $\mu$ , in Length.

Male: (Fig.2) Apterous, small in size, 0.7 mm, color of mouth part, prothorax, pterothorax, legs, abdominal segments 1-8 and antennal segments 1- 4 pale yellow, with rest body brown, setae dark. Head 60  $\mu$  in length, 64  $\mu$  width, lengthen the extended part between antennal base 10  $\mu$ . Eyes 22-24  $\mu$  in length, ocelli absent, with 3 anteocular pairs of setae, postocular setae 2 pairs. Antennae eight segmented. That 1,2,4 and 6, elongated, sense cone simple on 3,4 segments total length 206  $\mu$ . Pronotum 104  $\mu$  in length (anterior margin 80  $\mu$ , posterior margin 140  $\mu$ ) provided with eight setae, one pair of setae on each posterior angle, the outer 20  $\mu$ , inner 22  $\mu$  in length) with a microtricha on pronotal disk, four legs dented, with fine teeth, fewer than in the female. Wings wanting. Abdomen 426-429  $\mu$  in length with genitalia,

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glandular area circular, small on tergum 2-7, with a short line on the external wall began from 1<sup>st</sup> abdominal segment to 8th and became nearly with others.

Material examined:

Iraq; Baghdad, Abu-Gharib, six ♀; one ♂ on *imperata cylindrica* L. Holotype one ♀, Allotype 1 ♂, Paratype 5 ♀, in March 2000, kept at Iraq Natural History Museum and with the author.

This species is closely related to both *Chirothrips meridionalis* Bagnall and *Chirothrips hamatus* Trybom, in the characters of head and thorax, but differs from the former by the presence of a structural like teeth on posterior margin of 2-8 abdominal segments, and from the latter by the presence of fewer teeth on the outer margins of both the fore femur and tibia.

#### *Taeniothrips tigridis* sp. nov.

Female (Fig.3) 1.0-1.1 mm. Color Brown yellowish, front dark, eyes black with paler yellowish lateral edge, ocelli creamy, antennal segments 3,4 and 5 yellow shaded with brown, mouth cone black at apex, prothorax pale yellow, pterothorax and abdomen brown yellowish. Fore legs pale yellow, all tarsi pale brown, middle and hind tibiae shaded with pale brown, wings pale grayish shaded brown at middle area, apex of abdomen brown, setae body brown. Head small, 79-82  $\mu$  in length, 120-125  $\mu$  width, with a structure like a bridge on front. Eyes large and prominent with pale margin extended lateral head, six facts appeared on lateral margin, distance between eyes 31-32  $\mu$ , first Ocellus behind bridge, others near inner eye's angle. Antecular setae 30-32  $\mu$  anterior third Ocellus, postocular setae present arranged in serial 10-12 seta, check short strongly convex toward mouth cone. Mouth cone large extends between procoxae rounded at apex. Maxillary palp three segment first and second equal in length, third longer, labial palp two segments. Antennae eight segmented 188-208  $\mu$  in length sense cone forked on third and fourth segments. Pronotum 115-118  $\mu$  in length, width 149-154  $\mu$  anterior margin proved with six short setae, posterior margin with three pairs of seta, one pair at middle longer than the others, posterior angle carried one pair on each sides, the outer 32-36  $\mu$ , inner 37-39  $\mu$ , with microtrichia on pronotum. Legs normal. Wings 648-657  $\mu$  in length reaching eight abdominal segment, veins prominent, setae on coastal margin 26-27, first vein with, 9-10 (3+3) dark setae at base and mid wing, 3-4 distal setae, second vein 11-13 serial seta Abdomen 679-686  $\mu$  in length, segment 1-7, cylindrical, strongly broad in eight segment, then conspicuous at 9-10, comb absent, pore sense near inner setae, nine segment carried three long pairs setae, and one short pair. Ten segment conical, split above with two pairs long seta and one short pair.

Male: Unknown.

Material examined: Iraq; Baghdad – Abu-Gharib, 3 ♀♀♀ on *Lycopersicum esculentum* L. Holotype one ♀, Paratype two ♀♀, on 30-6-1999, kept at Iraq Natural History Museum and with the author.

This species is very allied to *Taeniothrips gowdeyi* Bagnall, but differs from it by the following characters: presence of a serial fact on anterior margin of eyes, comb absent on posterior margin of eight abdominal segment.

#### *Frankliniella megacephala* sp. nov.

Female (Fig.4) 1.19-1.2 mm. general color brown yellowish, anterior and lateral head pale, dark in middle, eyes black, ocelli pale yellow, antennae pale, segment 6th-8th dark, 1<sup>st</sup> – 5<sup>th</sup>, base 3rd pale. Prothorax brownish-yellow with orange pigment. Lateral pterothorax and legs pale brown, dark in sides. Wings pale, abdomen pale yellow at segments 1 - 7, apex darkness, setae dark. Head 113-115  $\mu$  in length, 131-135  $\mu$  width, with circular sides, eyes 43-45  $\mu$  in length, distances 29-30  $\mu$  from head sides, 1st pair of antecular seta 18-20  $\mu$  in length raised

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anterior ocelli, 2nd pairs 23-25  $\mu$  in length. Check strongly convex toward at apex. Mouth cone long reaching procoxa. Maxillary palp 3 segments. Labial palp 2 segments. Antennae eight segmented 125-243  $\mu$  in length, sense cone forked on third and fourth segments, total antennae. Pronotum 117-118  $\mu$  in length, 148-150  $\mu$  width, and their side's circular at anterior and posterior angles. One pair seta on anterior angle their length 28-30  $\mu$ , one pair on anterior margin lengthen 9-10  $\mu$ . Posterior margin carried 3 pairs setae, one at middle 11-12  $\mu$  lengthen, one pair at each posterior angle the outer 53-55  $\mu$ , the inner 61-63  $\mu$ . Wings 600-692  $\mu$  length, reaching to eight abdominal segments, seta's veins: 26-27 on coastal margin, 18-19 on first vein, second vein 14-15 arranged serially at both. Abdomen cylindrical, segments carried two short seta pairs at posterior margin, comb absent, the sense pore between the seta on 8th segment. ninth segment with four a long pairs seta (100-102  $\mu$ ). Tenth segment conical, length one -half times as width with three long setae pairs.

Male: Unknown.

Material examined: Iraq; Baghdad- Abu-Gharib 11 ♀, on flowers of *Convolvulus arvensis* L. Holotype one ♀, Paratype ten ♀ and *Amaryllis* sp. in 26-8-1999, and from Dyalia in 6-10-1999 on flowers *Hibiscus esculentum* L., this species lived group inside the flower ( six-seven insects), kept at Iraq Natural History Museum and with the author.

This species is similar to *Frankliniella unicolor* Morgan and *Frankliniella schultize* Trybom with the former by the following characters: distance between eyes from head sides wider, body longer with more number of seta. And differ from the latter by the following characters: the check more convex, head more elongated, their sides extended outwardly, eyes smaller.

*Retithrips bagdadensis* sp. nov.

Female (Fig.5) 1.49-1.53 mm, colors brown reddish with golden yellow. Head, prolegs, posterior margin of prothorax, pterothorax sides and abdomen dark brown to black. Tarsi pale yellow, eyes black, tubular ocelli nearly orange. First antennal segment, basal segments third-fifth pale, 2nd orange, the rest gray in color. Fore wing brown shaded with gray-reddish, middle abdominal segments shaded with red. Head width 1.5 time as long as length, 148-154  $\mu$  (length) 225-232  $\mu$  (width). Eyes length 70-75  $\mu$  with a pale margin, front extended between antennal base lengthed 49-59  $\mu$ . Check 20-25  $\mu$ , mouth cone short, broad at apex, maxillary palp three segments, the 1st short, broad elongated, 2nd longer than 1st, 3rd segment shorter, labial palp two segments. Antennae eight segmented 277-317  $\mu$ , in length sense cone simple and short on 3<sup>rd</sup> and normal 4<sup>th</sup> segments. Pronotum wide 1.5 time as long 95-104  $\mu$  in length, 279-286  $\mu$  width. Pterothorax 388-393  $\mu$  in length, metathorax carried two pairs of seta, inner pairs 91-96  $\mu$ , outer 103-111  $\mu$  (1n length). Wings 739-743  $\mu$  in length, with three callosities on coastal margin, 1st small, circular, distance 25-29  $\mu$  from coastal margin, 2nd normal, 3rd near wing apex. Veins conspicuous, fringes long, reaching 7th abdominal segment. Abdomen 881-900  $\mu$  in length, cylindrical, little broad at 2<sup>nd</sup> -6<sup>th</sup> segments convex towards apex. Posterior margin provided with structure chitin like teeth reaching to middle margin for each side. Comb present, ninth segment carried a pair of strong setae on posterior margin. Tenth segment with thick V- shape structure, tip a little broader.

Male: Unknown.

Material examined: Iraq, Baghdad-Abu-Gharib, 21 ♀ in June 1999 on leaves *Vitis vinifera* L. Holotype 1 ♀. Paratype 20 ♀ kept in Iraq Natural History Museum, and with the author.

This species is similar to *R. syriacus* (Mayet); *R. aegypticus* Marchal; *R. javanicus* Mayet; but differs from the first species by the following characters: sense cone on segment antennae 3<sup>rd</sup>, 4<sup>th</sup> simple, antennae longer, seta on metasternium longer and callosities differs in

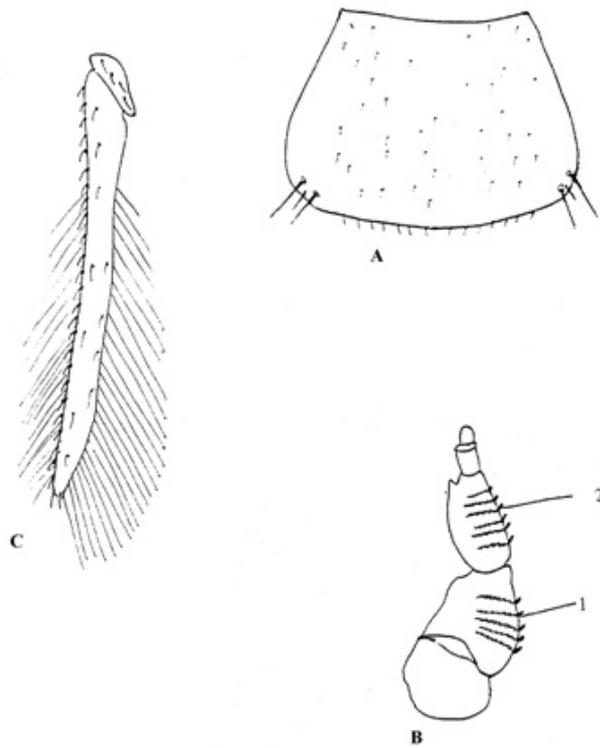
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arrangement on coastal margin for fore wing. It differs from second species by forked sense cone on antennal segments 3<sup>rd</sup>, 4<sup>th</sup>, and also by arrangement the callosities on coastal margin for fore wing. While differs from the third species by presence of two callosities on coastal margin for fore wing.

#### LITERATURE CITED

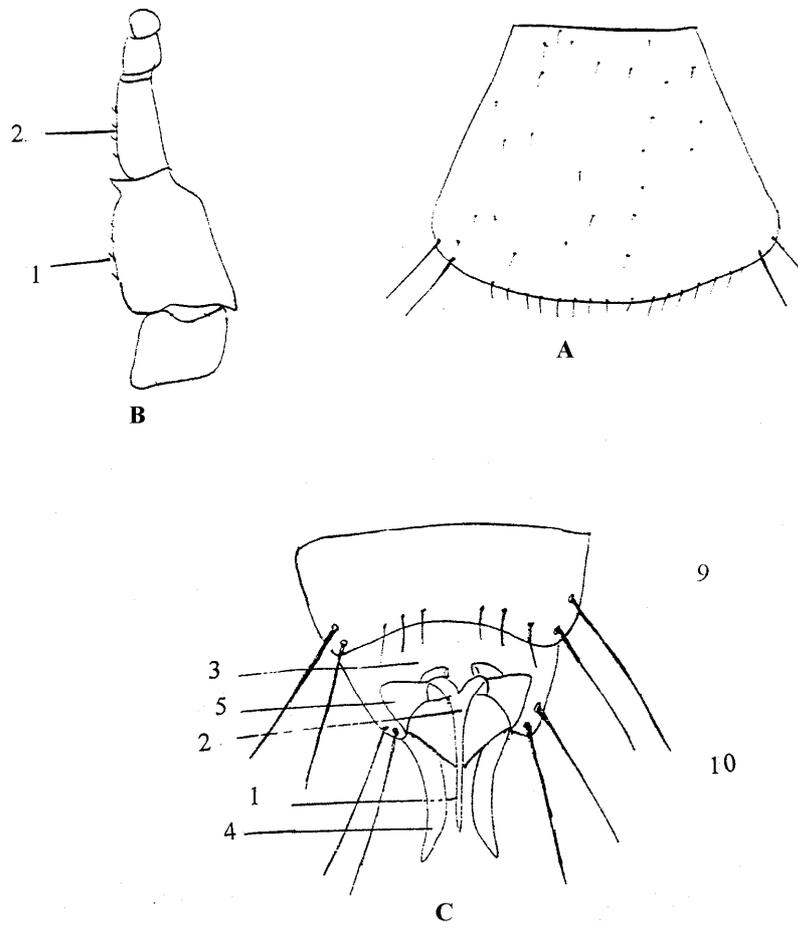
- Bagnall, R.S.1919. Brief descriptions of new Thysanoptera. 10. Ann. Mag. Nat. Hist. London, 14 (9): 253-275.
- Marchal, P.1910. Communication-Sur Un Noveae. Thrips vivant-sur La vigne, en Egypte. Bull. Soc. Ent. Egypte, 16:17-20.
- Morgan, A C.1925. Six new species of *Frankliniella* Karny and a key to the American species. Canad. Ent. 57:136-147.
- Priesner, H.1949a. Studies on the genus *Chirothrips* Haliday. Bull. Soc. Ent. Egypt. 33:159-174.
- Priesner, H.1949b. Genera Thysanoptera. Key for the identification of genera of the order Thysanoptera. Bull. Soc. Ent. Egypt. 33:31-157.
- Rivany, E.1939. Studies in biology and ecology *Retithrips syriacus* (Mayet) with species attestation in Palestine. Bull. Soc. Ent. Egypt. 23:150-181.
- Stinweden, J.B.1933. Key to all known species of the genus *Taeniothrips* Amyot & Serville. Trans. Amer. Ent. Soc. 59(978): 269-295.

(Fig.1): *Chirothrips imperata* sp. Nov. Female

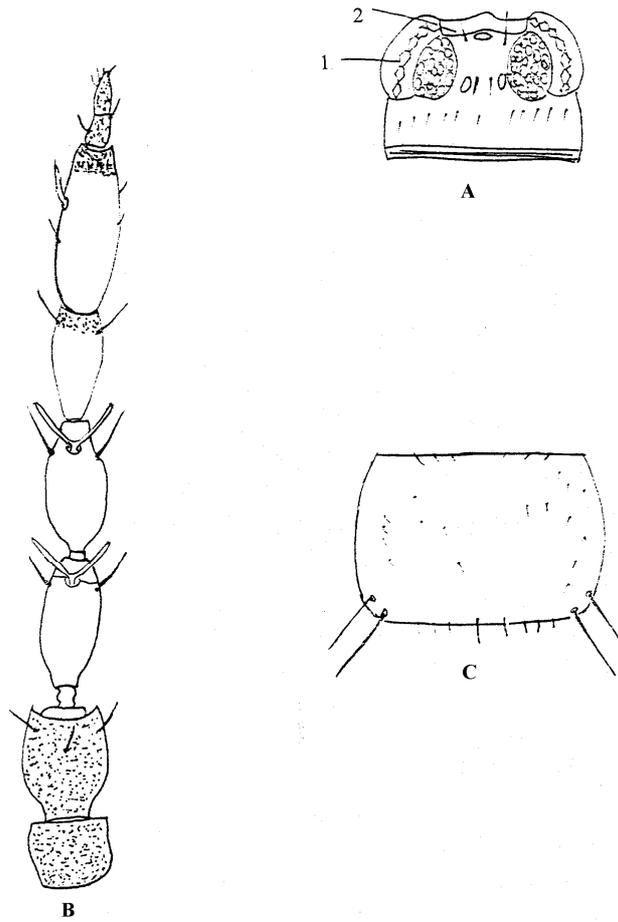


A- prothorax (400x). B- Forelegs (400x) 1,2 the dentate on femur and tibia.  
C- fore wing (400x).

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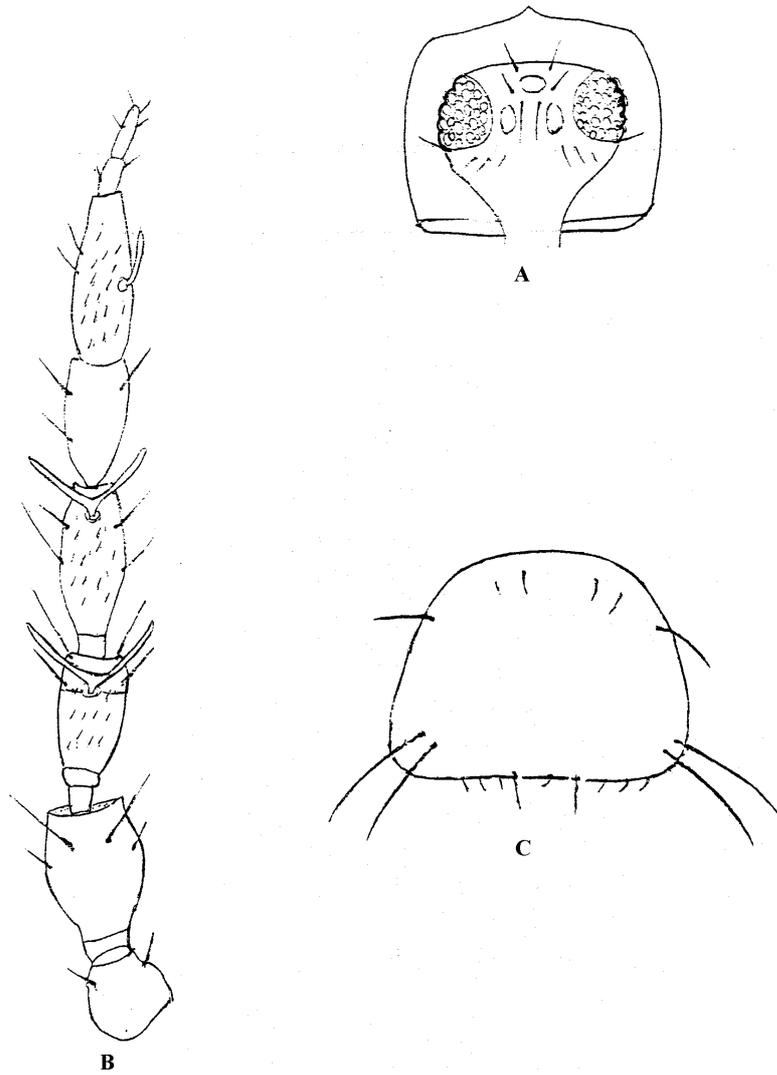
(Fig. 2) *Chirothrips imperata* sp. Nov. male.  
A- prothorax (400x). B- Forelegs (400x) 1,2 the dentate on femur and tibia.  
C- the abdominal segment 9, 10 and the genital. 1- adeagus 2- phallosome 3-  
hypandrium 4-parameres 5-



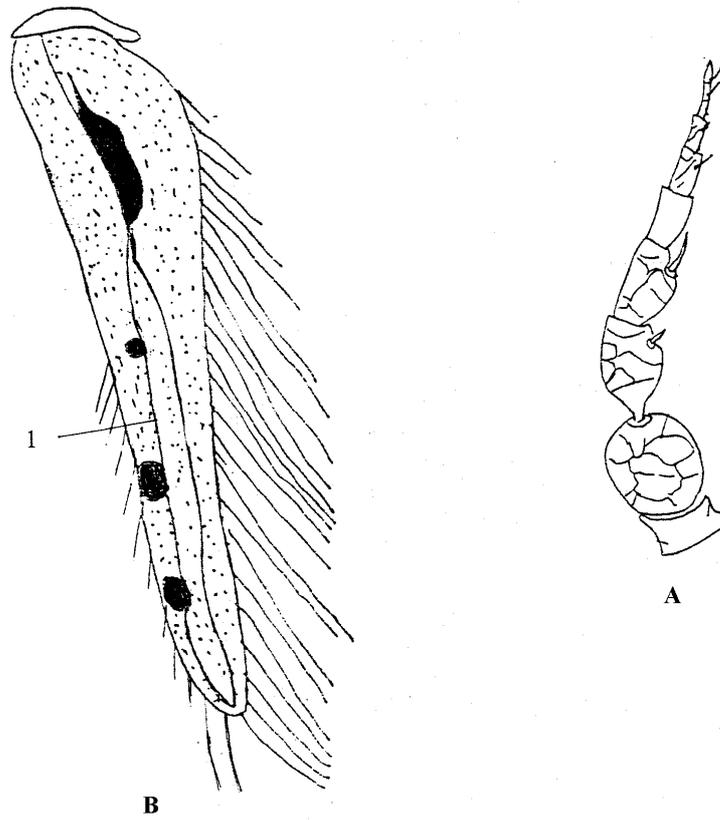
(Fig.3) *Teaniothrips tigridis* sp. Nov.

A- head (400x) 1- serial of ommatidia around the compound eye. B- antenna (400x). C- the prothorax (400x).

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( Fig.4) *Frankliniella megacephala* sp.Nov.  
A- Head (400x) B- Antenna (1000x) C- The Pronotum (400x)



(Fig.5) *Retithrips bagdadensis* sp. Nov.

A-A short sense cones on the 3<sup>rd</sup> and 4<sup>th</sup> antenna (400x). B- Fore wing show the first spot Far from the anterior margin (200x) .1- The ambient vein.

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*Bull. Iraq nat. Hist. Mus.*  
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أربعة أنواع جديدة للعلم (THYSANOPTERA: THIRIPIDAE) من وسط العراق\*

عواطف عبد الفتاح حمودي\*\* و محمد صالح عبد الرسول\*\*\*

\*\*قسم وقاية المزروعات، كلية الزراعة، جامعة بغداد، بغداد، العراق  
\*\*\*متحف التاريخ الطبيعي، جامعة بغداد، باب المعظم، بغداد، العراق

الخلاصة

أربعة أنواع جديدة للعلم (Thripidae) *Chirothrips imperatus* sp. nov.;  
*Frankliniella megacephala* sp. nov.; *Retithrips bagdadensis* sp. nov.;  
*Taeniothrips tigridis* sp. Nov.; جمعت من وسط العراق، صنفت و درست مع ذكر  
أنواعها.

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\*بحث مستل من أطروحة الدكتوراه للباحث الأول.