Bull. Iraq nat. Hist. Mus.
(2008)10 (3): 29-35

*KEYS FOR IDENTIFICATION FOR GENERA AND SPECIES OF THRIPS (THYSANOPTERA : THRIPIDAE) FROM MIDDLE OF IRAQ

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ABSTRACT

Keys for 22 species representing ten genera Thripidae collection carried out during 1999-2001 in different localities in the middle of Iraq. Of them four species are described as new to science, *Frankliniella megacephala* sp. nov; *Retithrips bagdadensis* sp. nov*; Chirothrips imperatus* sp. nov*; Taeniothrips tigridis* sp. nov*;* Another thirteen species are recorded for the first time in Iraq; *Thrips meridionalis* (Pri.); *Microcephalothrips abdominils* (Crawford); *Scolothrips pallidus* (Beach); *Scritothrips mangiferae* Pri.; *Frankliniella tritici* Bagnall; *Frankliniella schultzie* Trybom; *Frankliniella unicolor* Morgan; *Retithrips aegypticus* Marchal; *Retithrips javanicus* Mayet; *Taeniothrips gowdeyi* (Bagnall); *Chirothrips meridionalis* Bagnall; *Chirothrips me10icanus* Crawford; *Chirothrips hamatus* Trybom; and four species reported previously for Iraq; *Thrips tabaci* Lindeman; *Retithrips syriacus* Mayet; *Parascolothrips priesneri* Mound; *Anaphothrips sudanensis* Trybom; *Scolothrips se10maculatus* (Pergande), on different plants.

INTRODUCTION

Thripidae is one of the largest Thysanoptera families, included four subfamilies, and 1710 species (Mound, 1997; Heming, 2000). In Iraq no more study to identification thrips, that species wailed distribution, different at needed a temperature, humidity, lived in filed, garden, green house. Hardly seen a species on one plant as *Microcephalothrips abdomenalis* (Crawford) called (a composite thrips) and *Anaphothrips sudanensis* Trybom (a grass thrips), *Chirothrips* spp. a (gramany thrips).

RESULT

Characters for family Thripidae:

Antennae 8-9 segments, sense cone on 3,4 simple or forked, maxillary palp 2-3 segment, legs normal tarsi 1-2 segment some times with a claw, riticulium only on pterothora10. Pronotum with a micro seta on a disk, each hind angle carried pair of consumption seta, wings pale with 2-3 longitude veins on fore wing only, upper vein e10tend behind anterior marginal wig (coastal wing), hind wing pale without veins, abdomen normal, posterior margin of eight segment cared a comb, some times absent.

The family divided to four subfamilies: Panchaetothripinae, Thripinae, Sericothripinae and Dendrothripinae (Mound & Walker, 1982).

1- Subfamily Panchaetothripinae:

Riticulium in whole body, antennae heliothripod, 8 segmented the last segment longer than 7 segment. Wings broad at base, first vein fused with coastal margin and content the

* Apart of M. Sc. Thesis of the first author.

ambient vein. Apex of abdomen proved with a spiny or strongly seats. There are 33 genera and 120 species beyond to this subfamily. Here find only genus *Retithrips.*

2- Subfamily Sericothripinae*:*
Pale yellowish in color, small size, antennae 8 segmented sense cone on 3rd, 4th forked, wing's seta sperted on first vein, and a serial on 2nd vein, hind angel of Pronotum carried one seta at each side, whole body covered in a micro seta's specially on abdomenal segmented I – 8 and became less at segmented 9, 10 (Mound & Walker, 1982), find only genus *Scritothrips.*

3- Subfamily Thripinae:
It is a largest one for this family, different in their characters, riticulium weekly on pterothorax only, antennae 6-8 or 9 segmented the apex segmented small or some time equal7 segmented in length, wing veins prominent, apex of abdominal segment proved with long, strong seta some times a spiny. Divided to two Tribe: Chirothripini; Thripini (Mound&Walker, 1982).

Tribe Chirothripini:
Head e10tend between antennae basic, antennae 8 segmented, 2nd segmented a projection at outer side, sense cone on 3, 4 simple or forked, Pronotum not equal in anterior and posterior margin the lateral as 1.2 – 1.3 time as the first. Abdomen proved with a strong seta at apex, as in genus *Limothrips*, in Iraq find only genus *Chirothrips.*

Tribe Thripini:
Antennae 6-8 or 9 segmented, sense cones on 3, 4 segmented simple or forked. Pronotum equal in there anterior and posterior margins, different in habit, feeding on wild host plant, some of them are predator, feeding on small Arthropod, in Iraq find the genera; *Thrips; Microcephalothrips; Scolothrips; Parascolothrips; Anaphothrips; Taeniothrips; Frankliniella;*

Key to the Iraqi genera of family Thripidae:

1- Rriticulium at whole body, antennae heliothripod, Pronotum equal at anterior and posterior margins, more longer that the lateral, three callosities on fore wing, ambient vein present, posterior margin of abdomenal segmented with a strongly structure like teeth on each sides, comb present, dark brown color on Vitis leaf (fig.1) ……..*Retithrips* Marchal
- Not at above……..……..……...…….……...2
2- Antennae 7 segmented……...……..……...…3
-Antennae 8-9 segmented……...……..…….....5
3- One short pair seta on hind angel of Pronotum, 4-5 pairs microseta's on posterior margin, 1-8 chitin structure on posterior abdomenal margins, wing seta few, distance at arranged, brown-yellowish in color. On sunflower,(Fig.2) ……..…….*Microcephalothrips* Bagnall.
- Two long pairs seta on hind angel of Pronotum, consumption, more than 5 pairs seta on posterior margin, posterior abdomenal segmented smooth, color and size different…...….4
4- Antennae segmented carried microseta, maxillary palp 3 segmented, comb present, abdomenal segment cylindrical in shape, wild distribution (Fig.3)..……...… *Thrips* Linn.
- Antennae segmented without microseta, maxillary palp 2 segment, 3 brown spots on fore wing, comb absent, posterior abdomenal margin not slightly, pale brown in color, predator a anther small insects. (FIg.4) ……...….*Parascolothrips* Mound.
5- Pronotum symmetrical in shape, hind angle with 1-2 seta or none.2nd antennal segment symmetrical, sense cone on 3,4, forked, head normal,……...……..6

- Pronotum a symmetrical, hind margin 1.2 – 1.3 time as fore margin,2 antennal segment asymmetrical a projected at the outer side, sense cone on 3,4 forked or simple, head e10tended between antennal basal (Fig.5)……...……*Chirothrips* Haliday

6- Fore and hind Pronotum angels proved 1-2 long seta, abdomenal segmented carried a microseta or none……...……..……..9

- Fore Pronotum angels without seta, hind angel with 1-2 prominent seta, that's on tip abdomenal strong……..……7

7- One seta at each hind angel of Pronotum or none, comb present, different in size and color……..……..……...…8

- 2 seta at each hind angel of Pronotum, no microseta at abdomenal segment, brown-yellowish in color (Fig.6)…….……*Taeniothrips* Amyot & Serville

8- One seta at each hind angel, abdomen coverd by microseta, seta on 9 –10 long, pale(Fig.7)…….……*Scirtothrips* Shull

- Hind angels of Pronotum without seta, that's on 9-10 abdomenal segmented strong and long (Fig.8)……..……..*Anaphothrips* Uzel

9- Bodies seta long, pale, three brown spots on fore wing, seta's vein a few, distances arrange, pale brown-yellowish in color, predator (Fig.9)……..…..……*Scolothrips* Hinds

- Body's seats shorter, dark or brown, fore wing pale, seta's vein arranged in a serial on veins, color, size different (Fig.10)…….....…..…….*Frankliniella* Karny

Key to the Iraqi species of Thrips L.

1- Abdomenal sterinat 2-8 proved with a ccsossary seta, lateral target of abdomenal segment without microseta, Ovipositor short, base antennal vi segment convex, large species 1.4-1.5 mm, brown-yellowish in color ig,11)……...….meridionalis(Priesner)

- Abdomenal segmented without a ccsossary seta, lateral target with microseta, ovipositor long, base antennal vi segment circular, o.9-1.5 mm in length, paleyellowish, brown-ellowish in color, wild distribution (Fig.3)……..…tabaci Lindeman

Key to the Iraqi species of Scolothrips Hinds

1- First spot's wing contact at fore margin, 2-8 antennae segmented shaded with grayish color, lateral segment 3,4 not circular (Fig.12)…….……sexmaculatus (Pergande)

- First spot's wing not contact at fore margin, antennae segment 2-8 not shaded, lateral segmented 3,4 circular (Fig. 9)…….pallidus (Beach)

Key to the Iraqi species of Retithrips Marchal

1- Three callosities on fore wing, sense cone on segment 3,4 simple or forked……2

- Two callosities on fore wing, sense cone simple (Fig.13)…….……..javanicus Karny

2-All callosities at straight……..……..……..…..3

- Callosities not at a straight sense con on 3rd segment very short (Fig.14)…bagdadensis sp.nov.

3-Sense cone on segment 3,4 forked (Fig.15)…….……..……aegypticus Marchal

- Sense cone simple, normal in length (Fig.1)……..……..syriacus (Mayet)

Key to the Iraqi species of Frankliniella Karny

1- Comb present, abdomenal segmented 9 with 4 long seta, that's on wing; 23:18:15, dark brown in color (Fig.16)…….tritici Bagnall

- comb absent, more than 4 seta on abdomenal segmented 9, seta's wing different, color and size different ……..……..2

2- Tubular ocelli present, eyes close at head side, anteocular setae airside at front, seta's wing; 20:18:14 (Fig.10)…….……..schltzie Trybom

Keys for Identification

- Tubular ocelli wanting, eyes far away from head sides, anterocular seta different in placed, seta's wing different ……..……..….3
3- Eyes distance 9-10 M from head sides, anterocular seta within it, seta's wing; 25:17:12 ……(Fig.17)…….……unicolr Morgan
- Eyes distance 28-30 M, anterocular seta airside at anterior ocelli, seta's wing; 27:19:15 …….(Fig.18)……..…….…….megacephala sp. nov.

Key to the Iraqi species of Taeniothrips Amyot & Serville

1- Ommatidia un arranged as serial on outer margin of eyes, primary comb present, seta's wing;23:11:13 (Fig.6)…….…gowdeyi(Bagnall)
- Ommatidia arranged as serial on outer margin of eyes, comb absent, seta's wing; 27:10:13 …(Fig.19)…….……tigridis sp. nov.

Key to the Iraqi species of Chirothrips Haliday

1- 2nd antennal segment with a projection at outer side……...……..…2
- 2nd antennal segment normal……..……..……..…3
2- Sense cones on antennal segments 3,4 forked, head not e10tended between antennal basal, scallopus on pterothorax weakly, posterior margin of abdomenal segmented 2-8 provided with chitin structure, male winged, glandular area circular, small in size (Fig.20)……..……...meridionalis Bag.
- Sense cones on antennal segmented 3,4 simple, head e10tended between antennal basal, scallopus strongly on pterothorax, posterior margin of abdomenal segmented 2-8 smooth (Fig.21)…….……me10icanus Crawford
3- Fore tibia dented in both sex, male wingless, ocelli absent,(Fig.22) …….imperatus sp. nov.
- Fore tibia un dented, male unknown(Fig.5)……..…….hamatus Trybom

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(2008)10 (3): 29-35

تصيخشت ح يت لفم – عو نأو قلرعلا لطس ي فبرتلا

يلوم حجا تلالدبعفطلو ع* و ل وسر الد ب ح لمدمحم**
* ة يا ومهقتلاعورنم ل/ عارز ا ةيلكة/ دلدغبةعماج
**يع ي ب للخ و ا لفحتم/ دلدغبةعماج/ دلغب/ قلرعلا

هصلاخلا

ل قيه يشد تح يتا م (٢٢ يترلا لئاعنمسراج اة ر ع ل دوعت لعو ن (Thripidede) تعجم للاخ ١٩٩٩-٢٠٠٠ ةدلحعا نكت صد اهمقعر قلرعلا لطس في ة لمحقو نمنم لعالي و م:

megacephala sp. nov; *Retithrips bagdadensis* sp. nov*; Chirothrips imperatus* sp. nov*; Taeniothrips tigridis* sp. Nov.;

.بشتفةقبلا ا ما(١٣)يهو قرعلا في ة مرلالجدت عو ن:

Thrips meridionalis (Pri.); *Microcephalothrips abdominils* (Crawford); *Scolothrips pallidus* (Beach); *Scritothrips mangiferae* Pri.; *Frankliniella tritici* Bagnall; *Frankliniella schultzie* Trybom; *Frankliniella unicolor* Morgan; *Retithrips aegypticus* Marchal; *Retithrips javanicus* Mayet; *Taeniothrips gowdeyi* (Bagnall); *Chirothrips meridionalis* Bagnall; *Chirothrips me10icanus* Crawford; *Chirothrips hamatus* Trybom;

يهو لرطل اقبا ةلحمعلو ل سجمو:

Thrips tabaci Lindeman; *Retithrips syriacus* Mayet; *Parascolothrips priesneri* Mound; *Anaphothrips sudanensis* Trybom; *Scolothrips se10maculatus* (Pergande).