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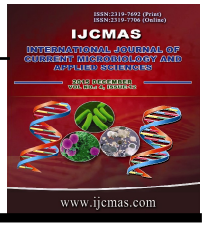

Short Communications

Revision to the Genera of Leaf Miner Agromyzidae (Insecta: Diptera) in Several Regions of Iraq

Hanaa Hani Al –Saffar*

Iraq Natural History Research Center and Museum, Baghdad University, Baghdad, Iraq
**Corresponding author*

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A B S T R A C T

The aim of this study to survey leaf miners genera of Agromyzidae in Iraq. Many leaf plants infested by agromyzids Diptera were collected. Date and localities of collections and emergence of miners were recorded.

Introduction

Family (Agromyzidae) is leaf mining flies commonly referred to as the leaf miners, for the feeding habit of larvae, most of which are leaf miners on various plants, some of them are stem borer of galls maker. The family is widely distributed through the world but with significantly loss species in the southern hemisphere than in the temperate areas of the Palaearctic and Nearctic regions, then was studied in different region of the world, (Spencer,1952, 1961,1963,1972, 1973, 1977,1983 Shahreki *et al* 2012).

A worldwide family of approximate 3000 species belonging to 30 genera about 1165 species (Dursan *et al* 2010), small, some with wing length. The maximum size is 6.5 mm. Most species are in the range of 2to3mm.

Adults agromyzids can be recognized by distinctive sclerotization of head. The upper part of frons, above ptilinal suture is lightly sclerotized and lacks setae, while the lower part of frons and dorsal area of head tends to be much more heavily sclerotized and setaceous. Thus frontal vita often forms a distinctive patch on head different in color and texture to the rest of head and it has 1-7 frontal bristles so vibrissae are present. Compound eyes are usually oval and fairly small although in some species they are larger and more circular. The wings are usually hyaline although those of a few tropical species have dark markings. Costal break present at the apex of subcostal vein ; cell cup small, first anal vein not reached wing margin ; pre genital sclerites of male with a simple (fused) tergal complex (tergites 6-8) with only two spiracles between tergites 5 and the genital segment ; and anterior part of abdominal segment 7 in female forming an oviscape, (Essig, 1947; Hennig, 1958; Curran, 1965; Cole, 1969, Oldryd, 1970; Borrer and White, 1970; Spencer, 1972, 1987; Unwin, 1981; Scudder and Canning, 2006).

Typically agromyzid larvae are cylindrical in shape, tapering interiorly; with projections bearing the anterior and posterior spiracles, the former positioned on the dorsal surface of the prothorax, the latter backwardly directed at the rear; prominent, strongly sclerotised; mouthparts, the mandibles with its longitudinal axis at oblique or right angles to the rest of the cephalopharyngeal skeleton and usually bearing two or more pairs of equally sized teeth, directed anteriorly, the ventral cornua (the posteriorly directed "arms") commonly shorter than the dorsal ones (Spencer, 1958, 1972).

In Iraq, this family was announced at (Al-azawi 1967, 1971; El-Haidari *et al.* 1972; Al-Ali, 1977; Mekhlif and Abdul-Rassoul, 2002; Abdul Rassoul and Al- Saffar, 2013, 2014, Al -Saffar 2014).

Materials and Methods

Many infested leaf of different plants were collected from some governorates and different regions of Iraq, (30-50) leaves per each plants). The leaf plants are of alfalfa, cucumber, and weeds. Compositae species from the provences : Baghdad, (Abu - Ghraib, Bab Al-Muadham, Al-Kadhumyia, Al Jadiryia), Kerbala, Nejef, and Basrah (Abu-Al Khaseeb, Al-Buradheiaya), during January to October. The infested leaves were collected and brought to the laboratory, then kept in Petri dishes at room temperature The dishes were numbered, the date and locality were recorded. After 21-30 days the flies were left the leaf as adult . The adults collected also by swap net from the field of alfafa and different weeds (Al-Saffar2013). The flies were mounted on small labels and others kept in gelatinized capsules. Specimens were diagnosed with a Dino-lite (Digital Microscope) and used binocular dissecting microscope (MB. Mariobroma. SRI., Roma) to magnificent the morphological features. The specimens were diagnosed by using reliable keys such as Frick, 1952; Spencer, 1972, 1973.

Results and Discussion

In the present investigation of the family Agromyzidae, four genera were recognized belonging to two sub families: Agromyzinae and Phytomyzinae, as follow,

Agromyza Fallen 1810

The flies can be recognized by Sub costal vein well developed and joining with first radial vein before reaching costa ; three pairs of dosocentral bristles were present ; halters white to yellow.

Materials: The specimens of this genus were collected from *Medecago sativa* leaves in several region of Iraq : 20 samples, 3 ♂♂ and 3♀♀ from Baghdad 23.III. 2014; 5♂♂ and 5♀♀ Kerbala on 24.IV 2014, 4 ♂♂Nejef on 15.VI. 2014. after 21-30 days the adult emberged.

Distribution: Through the world, Palearctic region

Melanagromyza Hendel,1920

The flies can be diagnosed by presence of two dorso-central bristles,. Lacking pre sutural dorsocentrals, costa extended to M2+3, halters black or brown.
Materials: 2♂♂ were collected from stem of *Vicia faba* on 25.II.2014 in Al Azyzia – Kut.

Distribution: Warm countries

Liriomyza Mik, 1894

Flies of this genus can be diagnosed by distinctive coloration, with both frons and scutellum largely yellow, costa extended to M1+2.

Materials: many specimens were collected from different leaf plants, 10 ♂♂from *Cucuribte sativa on 25.VI.2014*.Baghdad*;* , 4♂♂from *Lufa arabia* on 8.X.201 Baghdad;, 5♂♂ from *Cucuribte maxima* on10.IX.2014 Kerbala,, 6 ♂♂ from *Raphanus sativus* on20. IV.2014 Kerbala*; 4♂♂ from Dolichos sesquipedalis* on 3.IV.2014 Dhyala

Distribution: Palearctic Region, Oriental, old and new world.

***Phytomyza* Fallen, 1810**

The diagnostic characters of this genus, orbital setulae are proclinate, frons normal and not prominent and costal vein extended to second and third radial vein (R2+3), lacking second cross vein.

Materials: Many infested leaf plants were collected from different region of Iraq. 10♂♂from *Meloletis indeca* on 20.II,2014 Baghdad; 12♂♂from *Suncus* sp. on 22.V.2014 Baghdad; 14♂♂Al Amara ; on 30.I.2014;. 7♂♂from *Malvus* sp. on 25.III. 2014.

Distribution : Wide World Distribution.

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