

Study the Collection of Omar El – Mukhtar University Insects Museum and Comparing with Literatures in Libya.

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ABSTRACT

This study was carried out in the insects museum of plant protection department of agriculture college of Omar Al-Mukhtar University – Albieda, Libya during 2013-2014, which highlighted on Orders of the insects species that were identified to genera or species level, which represented the most common insects at Al-Jabal Al-Akhder area. Observations that 249 species and 251 genus belong to 97 families and 9 orders were established.

Keywords: Order, Family, Genera, Classification.

INTRODUCTION

The study of Libyan fauna has great scientific important to know the insect species that distributed in the geographical area and their economic importance. Hussein (1981) surveyed the seasonal abundance of insects using Rothamsted light trap in Tripoli, Libya. He recorded 94 species ranged in 31 families and 6 orders. El-Ghariani (1992) in his survey of insects in El-Bieda region found many species belong to several orders, and Bataw and Ben-Saad (1992) recorded 13 species in some areas of Libya. Amin et al. (1998) listed 38 species of insects belonging to 7 orders collected from different parts of Al-Bieda and El-Marg areas in Al-Jabal Al-Akhder region. A total of 19 species were collected by Al-Ali et al. (1999) from wheat and barley fields which were belonged to 6 Orders. Furthermore, 78 species of insects were collected from different areas of Al-Jabal Al-Akhder region by El-Ghariani et al., (2000). Identification of Lepidopteran from species Benghazi region, showed 26 species - 15 of them were recorded for the first time in Libya (El-Meghrabi 2001). In another study, El-Ghariani et al. (2000) recorded 91 species of the hemipterous species from different plant hosts. In addition, El-Meghrabi and Amin (2007) recorded 66 species belonging to 36 subfamily, 20 families of Lepidoptera order in Albieda area of Al-Jabal Al-Akhder region. Kemal and Kocak (2007) gave notes on the distribution of Lepidoptera and recorded a total of 180000 species widespread in the world, including 22904 species from Africa and 473 in Libya. Mohamed and Shaurub (2010) identified some insect species from northern east of Misurata region, of them 81 species were belonged to 77 genus, 59 families and 16 orders. The aim of this study is to know the different species of insects that identified inside the museum comparing to those reported in previous studies in the area.

MATERIALS AND METHODS

The Omar Al-mukhtar University museum was established in plant protection department of Agriculture Faculty in 1980. The insects at this museum were collected by several entomologists, since 1980 until now. These insect species were identified to several genera and orders. The identification was conducted by the department teaching members and the visitors. The goal of this study is to compare the

number of species that had been recorded in Libya. From the oldest researchers, Zavattari (1934) who listed the orders, families and genera of 4846 insect species. These species followed 1503 genus, 212 families and 18 orders that distributed in three provinces (Tripoli, Fezzan and Cyrena). Damiano (1961) recorded 515 species from different regions. Moreover, 169 insect species and their hosts were identified during the Kuf National Park Project of Libya ACSAD (1981). Finally, other studies that conducted in limited times and areas that mentioned in the introduction.

RESULTS AND DISCUSSION

Table 1. The number of insects species that had been identified by Zavattari (1934) in Libya.

No.	Order	Family	Genus	Species
1	Collembola	2	8	9
2	Thysanura	1	2	9
3	Anoplura	1	2	3
4	Dermoptera	2	0	7
5	Dictyoptera	2	21	37
6	Orthoptera	3	06	102
7	Hemiptera	26	91	122
8	Thysanoptera	1	3	3
9	Isoptera	1	2	2
10	Embioptera	2	2	2
11	Paraneuroptera	3	12	20
12	Ephemeroptera	1	1	1
13	Trichoptera	2	2	2
14	Siphonaptera	1	0	7
15	Coleoptera	00	267	1187
16	Diptera	28	203	021
17	Hymenoptera	18	182	119
18	Lepidoptera	21	302	997
19	Neuroptera	2	33	70

Table 2. The number of insects species that had been identified by Damiano (1961) in Libya.

No.	Order	Family	Genus	Species
1	Collembola	1	1	1
2	Dermoptera	1	1	1
3	Dictyoptera	1	3	3
4	Orthoptera	2	27	32
5	Hemiptera	10	96	132
6	Thysanoptera	2	9	12
7	Isoptera	2	2	2
8	Coleoptera	20	87	132
9	Diptera	13	17	26
10	Hymenoptera	7	13	12
11	Lepidoptera	22	100	100

Table 3. The number of insects species that had been identified by ACSAD (1981).

No.	Order	Family	Genus	Species
1	Collembola	1	1	1
2	Thysanura	1	1	1
3	Odonata	2	2	2
4	Dermoptera	2	2	2
5	Dictyoptera	2	7	7
6	Orthoptera	0	12	12
7	Hemiptera	12	19	21
8	Thysanoptera	1	2	2
9	Isoptera	2	2	2
10	Mallophaga	2	2	2
11	Coleoptera	16	26	29
12	Diptera	14	22	20

Table 4. Number of insects species identified at the insects museum of plant protection department Omar Al-mukhtar University.

No.	Order	Family	Genus	Species
1	Collembola	-	-	-
2	Thysanura	-	-	-
3	Anoplura	-	-	-
4	Odonata	-	-	-
5	Dermaptera	3	3	3
6	Dictyoptera	2	10	17
7	Orthoptera	3	7	8
8	Hemiptera	18	42	47
9	Thysanoptera	-	-	-
10	Isoptera	-	-	-
11	Mallophaga	-	-	-
12	Embioptera	-	-	-
13	Paraneuroptera	-	-	-
14	Ephemeroptera	-	-	-
15	Trichoptera	-	-	-
16	Siphonaptera	-	-	-
17	Coleoptera	31	102	90
18	Diptera	12	17	17
19	Hymenoptera	7	9	10
20	Lepidoptera	19	50	53
21	Neuroptera	7	7	7

The comparison between the previous results, difference in the number of insects collected was observed, and also the identified insects in the previous periods of studies and the study of (Zavattari,1934) were the more collected and identified and this was related to the long period of collection, and covered many sites of Libya, and the identification depend on the specialists and different scientific resource, while the specimens from the museum of plant protection Department was less than the previous studies because

the collection was from limited area of Libyan country Al-Jabal Al-Akhder area, the scientific trips were not organized, the area faced some agricultural operational amendments in the previous years (plant hosts eliminated as forest trees, shrubs and grasses) and the identification depend on some specialized visitors and less scientific sources although 91 species including 8 orders were recorded because vegetable crop, fruit and forest trees were cultivated in this area in the recent period.

Table 5. The orders previously recorded in Libya.

No	Order	Museum	Zavattari (1934)	Damiano, ACSAD, 1961	1981
1	Collembola	-	+	+	+
2	Thysanura	-	+	-	+
3	Anoplura	-	+	-	-
4	Odonata	-	-	-	+
5	Dermaptera	+	+	+	+
6	Dictyoptera	+	-	+	+
7	Orthoptera	+	+	+	+
8	Hemiptera	+	+	+	+
9	Thysanoptera	-	+	+	+
10	Isoptera	-	+	+	+
11	Mallophaga	-	-	-	+
12	Embioptera	-	+	-	-
13	Paraneuroptera	-	+	-	-
14	Ephemeroptera	-	+	-	-
15	Trichoptera	-	+	-	-
16	Siphonaptera	-	+	-	-
17	Coleoptera	+	+	+	+
18	Diptera	+	+	+	+
19	Hymenoptera	+	+	+	+
20	Lepidoptera	+	+	+	+
21	Neuroptera	+	+	-	+

Table 6. The number of insect species recorded for the first time by entomologists in Libya.

Serial	Number	Species	Family	Order	Collecting sites	References
1	1	<i>Cyllorhynchites sarahae</i>	Rhynchitidae	Coleoptera	Cyrenaica	Biondi et.al (2013)
2	1	<i>Agrilus grandiceps cyrenaticus</i>	Buprestidae	Coleoptera	Cyrenaica	Curletti (2005)
3	1	<i>Omocestus fontanae</i>	Aceridae	Orthoptera	Cyrenaica	Massa (2005)
4	1	<i>Rbacoceis lagrecai</i>	Tettigoniidae	Orthoptera	Cyrenaica	Fontana & Massa (2003)
5	1	<i>Fontia glaucome</i>	Pieridae			
6	1	<i>Gonepteryx cleopatra</i>				
7	1	<i>Mesocacidalia aglaja</i>	Nymphalidae			
8	1	<i>Pyronia tilhonus</i>				
9	1	<i>Lasionmate megera</i>	Satyridae			
10	1	<i>Melanargia occitanica</i>				
11	1	<i>Lycæna phlaeas</i>				
12	1	<i>Tomares balus</i>				
13	1	<i>Polymatus icarus</i>	Lycaenidae			
14	1	<i>Noctua pronuba</i>	Noctuidae			
15	15	<i>Phlogophora meticulosa</i>				
16	1	<i>Catocala nymphæa</i>		Lepidoptera	Albieda	El-Meghrabi & Amin (2007)
17	1	<i>C. nupta</i>	Arcttidae			
18	1	<i>Utetheisa pulchella</i>				
19	1	<i>Malacosoma neustria</i>	Lasiocampidae			
20	1	<i>Plutella xylostella</i>				
21	1	<i>Yponomeuta padellus</i>				
22	1	<i>Synanthedon myopaeiformis</i>				
23	1	<i>Geometra papilionaria</i>	Yponomeutidae			
24	1	<i>Calathysanis amata</i>	Sesiidae			
25	1	<i>Rhodometra sacraria</i>	Geometridae			
26	1	<i>Cydia pomonella</i>	Tortricidae			
27	1	<i>Thiodia citrana</i>	Gracillariidae			
28	1	<i>Phyllocnistis citrella</i>				
29	1	<i>Calsoma imbricatum</i>				
30	1	<i>Hemians ephippiger</i>	Carabidae	Coleoptera		
31	1	<i>Ceroplastes ceriferus</i>	Aeshnidae	Odonata	Jabel-Eluwinat	El-Meghrabi (2007)
32	1	<i>C. cecripediformis</i>	Coccidae	Homoptera		
33	1	<i>Neolecanium cornuparvum</i>				
34	1	<i>Mylarbris Cyrenaica</i>	Meloidae	Coleoptera		Bologna(2009)
35	1	<i>Hycleus ringenbachi</i>				
36	1	<i>Anthrenus munroi</i>				
37	1	<i>A. biskrensis</i>				
38	1	<i>A. verbasci</i>				
39	1	<i>Atagenus bifasciatus</i>				
40	1	<i>A. civetta</i>				
41	1	<i>A. pellio</i>				
42	1	<i>A. scalaris</i>	Dermestidae	Coleoptera		Hava (2003)
43	1	<i>A. similis</i>				
44	1	<i>Dermestes ater</i>				
45	1	<i>D. frischii</i>				
46	1	<i>D. maculatus</i>				
47	1	<i>D. sardous</i>				
48	1	<i>D. undulatus</i>				
49	1	<i>Steropleurus innocenti</i>	Tettigoniidae	Orthoptera	Cyrenaica	Fontana & Massa (2008)
50	1	<i>S. flenorum</i>				
51	1	<i>S. tientlei</i>				
52	1	<i>Paratassa ringenbachi</i>	Buprestidae	Coleoptera	Fezzan	Liberto & Gighi (2005)
53	1	<i>Mayetiola hordei</i>	Cecidomyiidae	Diptera		El Bouhssini et.al(2003)
54	1	<i>Cydonia nilotica</i>	Coccinellidae	Coleoptera		
55	1	<i>Calidomantis savignyi</i>	Mantidae	Dictyoptera	Albieda	Bataw et.al(2002)
56	1	<i>Rhyzotrogus punicus</i>				
57	1	<i>Oxythyrea noemi</i>				
58	1	<i>Aethiessa mesopotamica</i>				
59	1	<i>Phyllognathus excavatus</i>				
60	1	<i>Tropinota squalida squalida</i>	Cerambycidae			
61	1	<i>Tropinota squalida hirta</i>				
62	1	<i>Potosia cuprea metallica</i>	Buprestidae	Coleoptera		Yahiya(2010)
63	1	<i>Rhesus serricollis</i>				
64	1	<i>Stromatium unicolor</i>				
65	1	<i>Anthaxia kneuckeri</i>				
66	1	<i>Capnodis exice</i>				

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دراسة مجموعة الحشرات بمتحف جامعة عمر المختار مقارنة بالدراسات السابقة بليبيا

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أجريت هذه الدراسة في متحف الحشرات بقسم وقاية النبات كلية الزراعة جامعة عمر المختار بليبيا خلال الفترة من ٢٠١٣ إلى ٢٠١٤ لمعرفة الأنواع المختلفة من الحشرات التي تم تعريفها داخل المتحف مقارنة ببعض الدراسات السابقة التي أجريت بهذه المنطقة، حيث سلط الضوء على رتب الحشرات التي تم تعريفها الى النوع و الجنس في الماضي او حالياً والتي مثلت معظم الحشرات الشائعة وخاصة بمنطقة الجبل الأخضر ودلت نتائج هذه الدراسة على وجود ٢٤٩ نوعاً من الحشرات الشائعة و ٢٥١ جنس و تدرجت هذه الحشرات في ٩٧ فصيلة و ٩ رتب .