

Faunistic Study on Papilionoidea and Hesperioidea (Lepidoptera) of Göksu Valley in Mut, Southern Turkey

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Abstract.- In this study, the fauna of Papilionoidea and Hesperioidea (Lepidoptera) from Göksu Valley, Mut district, in the Mediterranean region of Southern Turkey were investigated. Field collections were conducted between April and August from 2007–2009. Individuals were collected from 58 field surveys. The specimens belonged to 131 species in five families, including Papilionidae (6 species), Pieridae (16), Nymphalidae (42), Lycaenidae (53), and Hesperidae (14). Fifty-nine of the 131 species were new records for the Lepidoptera fauna of Mut.

Keywords: Butterfly, Lepidoptera, moths.

INTRODUCTION

Lepidoptera is divided into two different suborders, Rhopalocera (including Hedyloidea, Hesperioidea, and Papilionoidea; butterflies and skippers) and Heterocera (moths) (Römoser and Stoffolana 1994). Rhopalocera species were surveyed in this study.

There are a lot of studies about Lepidoptera fauna in Turkey (Lederer, 1855; Koçak 1975, 1976, 1977; Kudrna, 1983; Koçak, 1986, 1987, 1989, 1990; Koçak and Seven, 1994, 1995; Okyar and Aktaç, 1998; Hüseyinoğlu, 2000; Seven *et al.*, 2000; Can, 2008; Koçak and Kemal, 2008, 2009; Kaygin *et al.*, 2009; Ayberk *et al.*, 2010; Koçak and Kemal, 2012; Atay and Yolcu, 2012 and Hüseyinoğlu, 2013). Hesselbarth *et al.* (1995) declared that there were 345 butterfly species in Turkey, but to date 380 species have been identified (Karaçetin and Welch 2011). In total in these studies, about 72 species have been reported from Mut.

The objectives of this study were to investigate the Lepidoptera fauna of Mut and to contribute to the knowledge of Lepidoptera species and their distribution in Turkey.

MATERIALS AND METHODS

This study was conducted from 2007–2009 in Göksu Valley, Mut, Turkey. Fifty-eight field

surveys were carried out between April and August in different habitat types and ranging in altitude from 100–1750 m (Table I). Specimens were collected using a sweep net and killed in killing jars with ethyl acetate. Each specimen was put into a labeled envelope and brought to the laboratory to be spread and dried. Identifications were based on the studies of Hesselbarth *et al.* (1995), Hofmann and Marktanner (1995), Tolman and Lewington (1977), and the author's reference collections.

RESULTS

A total of 131 species belonging to five families and two superfamilies of Rhopalocera were identified. The highest number of species belongs to Lycaenidae (53, 40.5%), followed by Nymphalidae (42, 32%), Pieridae (16, 12.2%), Hesperidae (14, 10.7%) and Papilionidae (6, 4.6%). The list of species, according to Hesselbarth *et al.* (1995); Koçak and Kemal (2009); Wahlberg *et al.* (2009); Heikkilä *et al.* (2012) and the localities from which they were taken in Göksu Valley are in Table II.

DISCUSSION

Mut has a rich flora and fauna. The different ecosystems provide multiple habitat types for animals and plants, which may increase diversity. For more thorough sampling, butterflies in Göksu Valley were collected at 58 sites in different vegetation types, including agricultural fields and in *Pinus*, *Quercus*, and *Sedrus* forests, at altitudes ranging from 100–1750 m and at different times. All

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Table I.- Locations and dates of collections of butterflies in Göksu Valley, Mut District, Turkey.

#	Locality	Altitude	Collection Date	Coordinates	
				North	East
1	Köselerli	100 m	07 Apr, 2007	36° 32' 49"	33° 27' 06"
2	Beşçatal	200 m	07 Apr, 2007	36° 29' 43"	33° 35' 02"
3	Hocalı	250 m	07 Apr, 2007	36° 29' 12"	33° 36' 30"
4	10 km N. Mut	500 m	07 Apr, 2007	36° 43' 19"	33° 23' 05"
5	Köselerli	150 m	14 Apr, 2007	36° 33' 14"	33° 27' 21"
6	Beşçatal	200 m	14 Apr, 2007	36° 29' 43"	33° 35' 02"
7	Irmaklı	200 m	14 Apr, 2007	36° 34' 10"	33° 23' 20"
8	Çortak N.	300 m	14 Apr, 2007	36° 30' 32"	33° 35' 51"
9	10 km N. Mut	400 m	14 Apr, 2007	36° 41' 57"	33° 25' 31"
10	Çınarlı	390 m	15 Apr, 2007	36° 37' 11"	33° 38' 16"
11	Kayabaşı	420 m	15 Apr, 2007	36° 36' 08"	33° 38' 14"
12	Dereköyü	450 m	15 Apr, 2007	36° 38' 30"	33° 39' 41"
13	Sarıkavak	700 m	15 Apr, 2007	36° 39' 31"	33° 38' 25"
14	Zeytinçukuru	150 m	21 Apr, 2007	36° 34' 57"	33° 19' 34"
15	Suçatı	150 m	21 Apr, 2007	36° 36' 42"	33° 22' 01"
16	Hamamköy	150 m	21 Apr, 2007	36° 38' 34"	33° 22' 08"
17	Evren	200 m	21 Apr, 2007	36° 35' 12"	33° 17' 28"
18	Azmaç	350 m	21 Apr, 2007	36° 33' 56"	33° 16' 27"
19	Suçatı	150 m	12 May, 2007	36° 36' 41"	33° 22' 07"
20	Zeytinçukur	260 m	12 May, 2007	36° 35' 26"	33° 20' 02"
21	Hamamköy	150 m	12 May, 2007	36° 38' 03"	33° 22' 20"
22	Azmaç	500 m	12 May, 2007	36° 34' 06"	33° 15' 54"
23	Çamlıca	300 m	26 May, 2007	36° 37' 31"	33° 14' 40"
24	Çamlıca S.	500 m	26 May, 2007	36° 37' 56"	33° 12' 31"
25	Yalnızcabağ	900 m	26 May, 2007	36° 39' 15"	33° 09' 28"
26	Akkuşlar	1200 m	26 May, 2007	36° 39' 04"	33° 08' 35"
27	İlica	700 m	27 May, 2007	36° 40' 39"	33° 11' 17"
28	Akbelen	1200 m	27 May, 2007	36° 39' 28"	33° 07' 55"
29	Değirmenlik	1300 m	27 May, 2007	36° 39' 35"	33° 07' 01"
30	Değirmenlik	1500 m	27 May, 2007	36° 39' 54"	33° 05' 37"
31	Alahan	1200 m	06 Jun, 2007	36° 45' 18"	33° 25' 51"
32	Sertavul	1500 m	06 Jun, 2007	36° 53' 21"	33° 15' 49"
33	Gökçetaş N.	700 m	06 Jun, 2007	36° 52' 53"	33° 10' 28"
34	Gençali	1300 m	07 Jun, 2007	36° 49' 15"	33° 27' 12"
35	Dağpazarı	1400 m	07 Jun, 2007	36° 49' 03"	33° 28' 30"
36	Dağpazarı	1500 m	07 Jun, 2007	36° 48' 38"	33° 27' 42"
37	Çamlıca S.	500 m	12 Jun, 2007	36° 37' 56"	33° 12' 31"
38	Alahan	1200 m	11 Jul, 2007	36° 45' 18"	33° 25' 51"
39	Dağpazarı	1300 m	11 Jul, 2007	36° 50' 04"	33° 28' 04"
40	Çivi	1360 m	11 Jul, 2007	36° 50' 32"	33° 33' 08"
41	Gençali	1300 m	11 Jul, 2007	36° 49' 15"	33° 27' 12"
42	Kestel	1500 m	11 Jul, 2007	36° 48' 39"	33° 26' 33"
43	Karacaoğlan	1200 m	17 Jul, 2007	36° 39' 14"	33° 42' 11"
44	Kozlar	1350 m	17 Jul, 2007	36° 43' 15"	33° 31' 04"
45	Boynuzkıran	1700 m	18 Jul, 2007	36° 40' 32"	33° 04' 25"
46	Mut-Ermenek	1100 m	19 Jul, 2007	36° 33' 30"	33° 12' 51"
47	Değirmenlik	1500 m	19 Jul, 2007	36° 39' 54"	33° 05' 37"
48	Hamamköy	150 m	20 Jul, 2007	36° 38' 34"	33° 22' 08"
49	Yerköprü	300 m	20 Jul, 2007	36° 32' 35"	33° 13' 57"
50	Sertavul	1620 m	20 Jul, 2007	36° 54' 16"	33° 15' 50"
51	Hamamköy N.	300 m	10 May, 2008	36° 37' 29"	33° 21' 01"
52	Yerköprü	350 m	10 May, 2008	36° 32' 10"	33° 13' 48"
53	Çukurbağ	1100 m	09 Sep, 2008	36° 41' 32"	33° 36' 28"
54	Çömelek	1300 m	09 Sep, 2008	36° 42' 44"	33° 41' 30"
55	Sertavul	1500 m	17 May, 2009	36° 53' 21"	33° 15' 49"
56	Kozlar	1400 m	19 Jul, 2009	36° 43' 55"	33° 30' 47"
57	Kumru	1600 m	19 Jul, 2009	36° 44' 54"	33° 30' 34"
58	Çal	1750 m	26 Jul, 2009	36° 42' 23"	33° 03' 17"

Table II.- Systematic list of butterfly species collected in Göksu Valley, Mut District, Turkey. Localities are as in Table I.

Superfamily: Papilionoidea Latreille, (1802) (4 Families)

Family: Papilionidae Latreille, (1802) (6 species):

<i>Archon apollinus</i> (Herbst, 1798)	2, 13, 15, 14, 17
<i>Iphioides podalirius</i> (Linnaeus, 1758)	2, 7, 10, 12, 13, 15, 18, 23, 48
<i>Papilio machaon</i> Linnaeus, 1758	7, 8, 18, 43, 48
<i>Parnassius (Driopa) mnemosyne</i> (Linnaeus, 1758)*	29, 30, 33, 35, 36
<i>Zerynthia (Allancastris) deyrollei</i> (Oberthür, 1869)*	55
<i>Zerynthia (Allancastris) cerisyi</i> (Godart, 1822)	1, 3, 5, 7, 8, 11, 13, 15, 16, 14, 17, 20, 25, 27, 28, 29, 30, 31, 55

Family: Pieridae Duponchel, (1835) (16 species):

<i>Anthocharis cardamines</i> (Linnaeus, 1758)*	3, 7, 8, 11, 13, 18, 26
<i>Anthocharis damone</i> Boisduval, 1836	29
<i>Colias (Neocolias) aurorina</i> Herrich-Schäffer, [1850]	44
<i>Colias (Eriocolias) crocea</i> (Fourcroy, 1785)	2, 3, 8, 9, 11, 13, 16, 17, 23, 25, 30, 31, 33, 34, 35, 36, 39, 40, 43, 45, 47, 52, 56, 57, 58
* <i>Colias alfacariensis</i> Ribber, 1905	29, 45, 47, 50, 58
<i>Euchloe ausonia</i> (Hübner, [1804])	1, 2, 3, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 30, 35, 37, 52, 55, 57
<i>Gonepteryx farinosa</i> (Zeller, 1847)	1, 2, 23, 25, 31, 32, 45, 47, 56, 58
* <i>Gonepteryx rhamni</i> (Linnaeus, 1758)	50
* <i>Leptidea duponcheli</i> (Staudinger, 1871)	11
* <i>Leptidea sinapis</i> (Linnaeus, 1758)	44
<i>Pieris brassicae</i> (Linnaeus, 1758)	1, 2, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 19, 21, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 34, 36, 37, 39, 41, 40, 42, 43, 45, 47, 50, 52, 55, 56, 57, 58
* <i>Pieris (Artogeia) ergane</i> (Geyer, [1828])	47, 56, 57, 58
<i>Pieris (Artogeia) rapae</i> (Linnaeus, 1758)	1, 2, 3, 5, 7, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 21, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 41, 39, 40, 44, 47, 48, 50, 51, 53, 55, 56
* <i>Pieris (Artogeia) pseudorapae</i> Verity, 1908	10, 12
<i>Pontia edusa</i> (Fabricius, 1777)	1, 2, 4, 5, 6, 7, 8, 9, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 47, 50, 51, 52, 53, 55, 56, 57, 58
<i>Zegris eupheme</i> (Esper, [1804])	2, 3, 4, 5, 7, 13, 15, 16, 14, 17, 18

Family: Nymphalidae Swainson, 1827 (42 species):

<i>Libythea celtis</i> (Laicharting, 1782)*	45, 52, 56, 58
<i>Aglais urticae</i> (Linnaeus, 1758)	32, 35
<i>Argynnis (Fabriciana) niobe</i> (Linnaeus, 1758)	29, 32, 31, 33, 35, 34, 36, 45
<i>Argynnis (Pandoriana) pandora</i> [Denis & Schiffermüller], 1775)	23, 29, 31, 32, 33, 45, 47, 50, 52, 56, 58
<i>Brenthis hecate</i> ([Denis & Schiffermüller], 1775)*	40, 45, 58
<i>Issoria lathonia</i> (Linnaeus, 1758)	9, 23, 26, 29, 30, 31, 32, 35, 36, 43, 45, 50, 55, 58
<i>Limnitis reducta</i> Staudinger, 1901*	33
<i>Melitaea (Cinclidia) (phoebe) phoebe</i> (Goeze, 1779) *	26, 30, 32, 35, 45, 47
<i>Melitaea (Cinclidia) (phoebe) punica</i> Oberthür, 1876	27, 29
<i>Melitaea (Cinclidia) collina</i> Lederer, 1861*	52
<i>Melitaea (Didymaeformis) didyma</i> (Esper, [1779])	29, 33, 45, 58
<i>Melitaea (Didymaeformis) fascalis</i> (Fabricius, 1787) *	21, 26, 27, 28, 31, 43, 46
<i>Polygonia (Comma) egea</i> (Cramer, [1775])	25, 29, 30, 44, 47, 56
<i>Thaleropsis ionia</i> (Eversmann, 1851) *	56
<i>Vanessa atalanta</i> (Linnaeus, 1758)	29, 33

<i>Vanessa cardui</i> (Linnaeus, 1758)	1, 2, 5, 6, 7, 8, 9, 13, 14, 15, 19, 22, 28, 31, 37, 38, 39, 40, 42, 43, 44, 45, 46, 47, 50, 58
<i>Arethusana arethusa</i> ([Denis & Schiffermüller], 1775) *	57
<i>Brintesia circe</i> (Fabricius, 1755)	58
<i>Chazara (Neochazara) anthe</i> (Hoffmannsegg, 1804)	39, 41, 42, 45, 47, 50, 56
<i>Chazara briseis</i> (Linnaeus, 1764)	38, 39, 42, 44, 45, 46, 47, 50, 54, 58
<i>Coenonympha leander</i> (Fabricius, 1787) *	36
<i>Coenonympha pamphilus</i> (Linnaeus, 1758)	29, 32, 33, 35, 36, 39, 45, 47, 50, 55, 58
<i>Hipparchia (Neohipparchia) fatua</i> (Freyer, 1844)	41, 46, 49
<i>Hipparchia (Parahipparchia) aristaeus</i> (Bonelli, 1826)	41, 42, 45, 49, 53, 56, 57, 58
<i>Hipparchia (Parahipparchia) mersina</i> (Staudinger, 1871)	16, 22, 23, 24, 26, 29, 31, 33, 34, 37, 45, 52
<i>Hipparchia (Parahipparchia) pellucida</i> (Stauder, 1924) *	38, 39, 41, 44, 45
<i>Hipparchia syriaca</i> (Staudinger, 1871) *	43, 44, 45, 47, 58
<i>Hyponephele (Turaninephele) wagneri</i> (Herrich-Schäffer, [1846]) *	31
<i>Hyponephele lupina</i> (Costa, [1836])	44, 45, 57, 58
<i>Hyponephele Iycaon</i> (Rottemburg, 1775)	31, 36, 38, 39, 42, 45, 47, 50, 58
<i>Lasiommata maera</i> (Linnaeus, 1758)	12, 29
<i>Lasiommata megera</i> (Linnaeus, 1767)	4, 8, 9, 11, 12, 18, 25, 27, 32, 34, 50
<i>Maniola (Telmessiola) telmessia</i> (Zeller, 1847)	14, 16, 18, 19, 21, 22, 23, 37, 52
<i>Maniola jurtina</i> (Linnaeus, 1758) *	16, 17, 18, 19, 20, 21, 25, 37, 50
<i>Maniola megalis</i> (Oberthür, 1909) *	21
<i>Melanargia (Turcargia) larissa</i> (Geyer, [1828])	27, 34, 38, 39, 42, 43, 44, 45, 47, 50, 56, 57, 58
<i>Pararge aegeria</i> (Linnaeus, 1758) *	8, 10, 11, 12, 29
<i>Protorebia afra</i> (Fabricius, 1787)	55
<i>Pseudochazara (Achazara) anthele</i> (Hübner, [1824])	21, 23, 24, 31, 33, 34, 36, 38, 39, 45, 46, 47, 54, 56, 57
<i>Pseudochazara lydia</i> (Staudinger, 1878) *	45, 50, 57, 58
<i>Pseudochazara mniszechii</i> (Herrich-Schäffer, [1851])	38, 47, 58
<i>Satyrus (Asatyrus) ferulus</i> (Fabricius, 1793) *	42, 58
Family: Lycaenidae Stephenes, 1829 (53 species):	
<i>Callophrys rubi</i> (Linnaeus, 1758)	2, 25, 28, 29, 32, 35
<i>Celastrina argiolus</i> (Linnaeus, 1758)	30, 52, 57
<i>Chilades (Freyeria) trochylus</i> (Freyer, 1843)	56
<i>Chilades (Lachides) galba</i> (Lederer, 1855) *	3, 12, 20, 22
<i>Cupido osiris</i> (Meigen, [1829])	26, 32, 33, 34, 35, 42, 58
<i>Glaucopsyche (Apelles) astraea</i> (Freyer, [1851])	6, 26, 28
<i>Glaucopsyche alexis</i> (Poda, 1761)	2, 3, 7, 8, 16, 15, 17, 20, 23, 25, 26, 28, 29, 30, 34, 35, 36, 55
<i>Glaucopsyche (Iolana) lessei</i> Bernardi, 1964*	31, 33
<i>Lampides boeticus</i> (Linnaeus, 1767)	24, 28, 33, 40, 45, 47, 56, 57, 58
<i>Leptotes pirithous</i> (Linnaeus, 1767) *	21, 26, 27, 28, 31, 43, 46, 52
<i>Lycaena (Loweia) tityrus</i> (Poda, 1761) *	29, 45, 47
<i>Lycaena (Thersamonia) asabinus</i> (Gerhard, [1850])	29
<i>Lycaena (Thersamonia) kefersteinii</i> (Gerhard, [1850]) *	29, 33
<i>Lycaena (Thersamonia) thersamon</i> (Esper, [1784])	16, 29, 31, 32, 33, 35, 36, 45, 47, 50, 53, 54
<i>Lycaena phlaeas</i> (Linnaeus, 1761)	13, 21, 25, 29, 32, 39, 45, 47, 49
<i>Plebejus (Kretania) carmon</i> (Gerhard, [1851]) *	20, 33, 35, 44, 45, 56, 58
<i>Plebejus (Plebejides) sephirus</i> (Fivaldzky, 1835)	31, 32, 33, 35, 42, 45, 47, 57, 58
<i>Plebejus argus</i> (Linnaeus, 1758)	29, 45, 58
<i>Polyommatus (Albulina) loewii</i> (Zeller, 1847)	20, 31, 42, 38, 44, 45, 47, 56, 57, 58
<i>Polyommatus (Eumedonia) eumedon</i> (Esper, [1780]) *	29
<i>Polyommatus (Pseudoaricia) isauricus</i> (Staudinger, 1871) *	56, 57
<i>Polyommatus (Aricia) agestis</i> ([Denis & Schiffermüller], 1775)	2, 3, 4, 8, 10, 12, 14, 17, 20, 21, 23, 29, 31, 33, 34, 35, 39, 40, 44, 45, 47, 50, 51, 57, 58
<i>Polyommatus (Agrodiaetus) actis</i> (Herrich-Schäffer, [1851]) *	39, 50, 57
<i>Polyommatus (Agrodiaetus) sertavulensis</i> (Koçak, 1979)	39, 40, 44, 50, 56, 58
<i>Polyommatus (Admetusia) admetus</i> (Esper, [1783]) *	39, 41, 45, 47, 50
<i>Polyommatus (Admetusia) alcestis</i> (Zerny, 1932) *	40, 47, 50

<i>Polyommatus (Admetusia) ripartii</i> (Freyer, [1830])	44, 47, 57, 58
<i>Polyommatus (Agrodiaetus) menalcas</i> (Freyer, [1837]) *	40, 45, 47, 50, 58
<i>Polyommatus (Agrodiaetus) hopfferi</i> (Gerhard, [1851]) *	40, 47
<i>Polyommatus (Agrodiaetus) poseidon</i> (Herrich-Schäffer, [1851]) *	39, 50
<i>Polyommatus (Agrodiaetus) theresiae</i> Schurian <i>et al.</i> , 1992 *	58
<i>Polyommatus (Agrodiaetus) wagneri</i> (Forster, 1956) *	39, 40
<i>Polyommatus (Cyaniris) bellis</i> (Freyer, [1842]) *	28, 29, 33
<i>Polyommatus (Cyaniris) antiochenus</i> (Lederer, 1861) *	28
<i>Polyommatus (Lysandra) bellargus</i> (Rottenburg, 1775)	22, 25, 26, 28, 29, 30, 31, 32, 33, 38, 45, 47, 54, 58
<i>Polyommatus (Lysandra) ossmar</i> (Gerhard, [1851])	40
<i>Polyommatus (Meleageria) dophnis</i> ([Denis & Schiffermüller], 1775)	39, 40, 41, 42, 44, 45, 47, 49, 50, 56, 57, 58
<i>Polyommatus (Neolysandra) coelestinus</i> (Eversmann, 1843) *	29, 30, 35
<i>Polyommatus (Plebicula) amandus</i> (Schneider, 1792) *	29, 30, 32, 33, 35
<i>Polyommatus (Plebicula) dorylas</i> ([Denis & Schiffermüller], 1775) *	40
<i>Polyommatus (Sublysandra) cornelius</i> (Freyer, [1850])	28, 29, 32, 33, 36, 41, 42, 43, 44, 45, 47, 50, 56, 57, 58
<i>Polyommatus (Thersitesia) thersites</i> (Canterer, [1835])	7, 32, 33, 36, 39, 41, 45, 47, 49, 50, 58
<i>Polyommatus icarus</i> Rottenburg, 1775	2, 3, 5, 6, 7, 8, 9, 11, 12, 13, 16, 14, 17, 18, 20, 22, 23, 25, 29, 30, 31, 32, 33, 35, 36, 41, 39, 40, 42, 44, 45, 47, 49, 50, 53, 54, 56, 57, 58
<i>Pseudophilotes vicrama</i> (Moore, 1865)	13, 26, 29, 44, 45, 47, 57
<i>Rubrapterus bavius</i> (Eversmann, 1832)	13, 25, 26, 47
<i>Satyrium (Nordmannia) abdominalis</i> (Gerhard, [1850]) *	45
<i>Satyrium (Nordmannia) acaciae</i> (Fabricius 1787)	31, 44
<i>Satyrium (Nordmannia) ilicis</i> (Esper, [1779])	23, 31, 34, 45, 52, 56, 57
<i>Satyrium (Strymonidia) spini</i> (Fabricius 1787)	19, 24, 31, 44, 45, 58
<i>Tarucus balkanicus</i> (Freyer, [1843])	39, 40, 45, 47, 50
<i>Tomares (nogelii) nesimachus</i> (Oberthür, 1893) *	11, 13
<i>Tomares (nogelii) nogelii</i> (Freyer, [1851]) *	9, 15, 19
<i>Turanana endymion</i> (Freyer, [1850])	45, 47, 50, 56, 58
Superfamily: Hesperioidea Latreille, 1809 (1 Family)	
Family: Hesperidae Latreille, 1809 (14 species):	
<i>Carcharodus (Lavatheria) stauderi</i> Reverdin, 1913 *	47, 58
<i>Carcharodus (Reverdinus) orientalis</i> Reverdin, 1913	31, 33, 44
<i>Carcharodus alceae</i> (Esper, [1780])	7, 9, 10, 12, 15, 17, 19, 20, 21, 25, 32, 36, 44, 47, 52, 55, 56
<i>Erynnis (Hesperopegasus) marloyi</i> (Boisduval, [1834]) *	7, 12, 15
<i>Erynnis tages</i> (Linnaeus, 1758) *	10, 25, 39, 43
<i>Muschampia tessellum</i> (Hübner, [1802])	28, 29, 33, 35, 36
<i>Pyrgus armoricanus</i> (Oberthür, 1910) *	10
<i>Pyrgus melotis</i> (Duponchel, [1834]) *	10, 11, 32, 26, 55
<i>Pyrgus serratulae</i> (Rambur, [1839]) *	29, 58
<i>Spialia (Neaspialia) orbifer</i> (Hübner, [1823])	3, 9, 10, 12, 17, 20, 25, 26, 32, 33, 35, 36, 39, 45, 57, 58
<i>Thymelicus acteon</i> (Rottenburg, 1775) *	35
<i>Thymelicus hyrax</i> (Lederer, 1861) *	21, 22, 29, 30, 32, 33, 34, 35, 36
<i>Thymelicus lineolus</i> (Ochsenheimer, 1808) *	25, 34, 35, 39, 45, 47, 57, 58
<i>Thymelicus sylvestris</i> (Poda, 1761)	32, 34, 35, 45, 57, 58

* The first record for Mut fauna.

these characteristics (locality, vegetation type, altitude, and date) affect biological distributions, especially of the butterflies in this study.

The larvae of some of the species identified in this study can cause economic damage to plants. Among these species, *Zerynthia cerisyi*,

Anthocharis cardamines, *Euchloe ausonia*, *Pieris brassicae*, *P. rapae*, *Pontia edusa*, *Melanargia larissa*, *Vanessa cardui*, *Polyommatus agestis*, and *P. icarus* have been mostly observed in agricultural areas. *P. brassicae* and *P. rapae* feed on cultivated Brassicaceae and are common pests on *Brassica*

oleracea as well as *Capparis spinosa* (Capparaceae); *V. cardui* and *P. icarus* are widespread on Fabaceae, including *Lotus*, *Trifolium*, *Astragalus*, and *Medicago*; *L. boeticus* feeds on *Prunus armeniaca* and *P. sativum* (Rosaceae); *Iphiclides podalirius* feeds on cultivated species such as *Prunus spinosa*, *P. armeniaca*, and *P. avium*; and *Leptidea sinapis* feeds on *Lotus corniculatus* in Mut.

Most of the species were caught in meadows and prairies where the variety of plants were higher and flowers were abundant. The greatest diversity of butterfly species was observed in spring and summer seasons, which provide the most food resources for butterfly larvae and adults and have adequate temperatures for development.

Based on the results derived from Table II, the most widespread species in the study area were: *I. podalirius*, *Z. cerisyi*, *Colias crocea*, *E. ausonia*, *Gonepteryx farinose*, *P. brassicae*, *P. rapae*, *P. edusa*, *Zegris eupheme*, *Argynnis pandora*, *Issoria lathonia*, *V. cardui*, *Chazara briseis*, *Coenonympha pamphilus*, *Hipparchia mersina*, *Hyponephele Iycaon*, *Lasiommata megera*, *Maniola telmessia*, *Pseudochazara anthelia*, *Glaucopsyche alexis*, *Lampides boeticus*, *Lycaena thersamon*, *L. phlaeas*, *Polyommatus agestis*, *P. bellargus*, *P. dophnis*, *P. cornelius*, *P. thersites*, *P. icarus*, *Carcharodus alceae* and *Spialia orbifer*.

This study contributed to our knowledge of the lepidopteran fauna of Mut in the Mediterranean region of Turkey. Scientific and taxonomic studies from this region are very limited in number. New studies of insect distributions should be carried out before agricultural and forest ecosystems are destroyed. In addition, the continuing illegal use of forests and incorrect land-use practices threaten to destroy biodiversity in the Mediterranean region. Therefore, detailed studies should be carried out as quickly and accurately as possible to evaluate the biological diversity in Turkey.

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