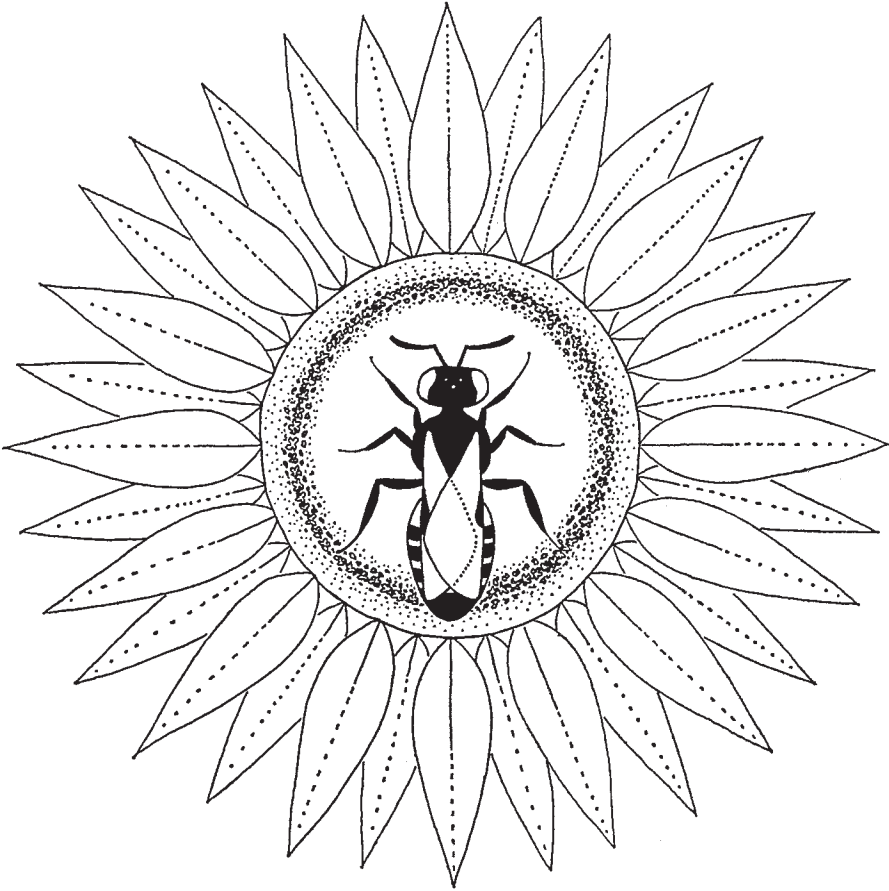


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**Faunistic Study of the Papilionoidea and Hesperioidea (Lepidoptera)
from the Amanos Mountains in İslahiye, Turkey**

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Faunistic Study of the Papilionoidea and Hesperioidea (Lepidoptera) from the Amanos Mountains in İslahiye, Turkey

MUSA DURMAZ¹ AND YUSUF HÜSEYİNOĞLU^{2,3}

ABSTRACT: In this study, the fauna of Papilionoidea and Hesperioidea (Lepidoptera) from the Amanos Mountains in İslahiye, Gaziantep province, Turkey has been investigated. Information obtained from a series of field studies carried out during 2006–2007 is given. Collection of butterfly specimens was carried out in 55 different localities for this study. A total of 2276 specimens belonging to 76 species distributed in 48 genera within five families were collected. The distribution of species, according to families, is as follows: Papilionidae, five; Pieridae, 13; Nymphalidae, 28; Lycaenidae, 18 and Hesperidae, 12. The evaluation of literature revealed that 48 of the 76 species collected in this study are new records for the Lepidoptera fauna of the Amanos Mountains, and nine of them are new records for the Gaziantep province.

KEY WORDS: Butterfly, Lepidoptera, fauna, ecology, Amanos, Gaziantep, Türkiye

The Lepidoptera, commonly known as butterflies and moths, is one of the major insect orders, both in terms of size, with some 160,000 described species in more than 120 families, and in popularity, with many amateur and professional entomologists studying them, particularly the butterflies (Gullan and Cranston, 2010).

Adult lepidopterans feed on nutritious liquids, such as nectar, honeydew, and other seepages from live and decaying plants, and a few species feed on fruit pieces; however, none suck sap from the vessels of live plants. Many species supplement their diet by feeding on nitrogenous animal wastes. Most larvae are phytophagous; a small number of “primitive” species feed on non-angiosperm plants, and some feed on fungi (Gullan and Cranston, 2010).

The Amanos Mountains and its extensions are located within the boundaries of Gaziantep, Hatay, Kahramanmaraş, Adana and Osmaniye provinces. The following represents a selected list of taxonomic, faunistic and ecologic studies pertaining the Lepidoptera fauna of the region, these are arranged in chronological order: Lederer (1861), Staudinger (1878, 1892, 1899, 1901), Heyne (1895), Röber (1896, 1897), Rothschild (1909), Rebel (1917), Venzmer (1920), Sheljuzhko (1924), Pfeiffer (1931, 1932), Belter (1934, 1935), Forster (1938, 1960), Zukowsky (1938), Higgins (1941, 1966), Lattin (1944, 1950), Lesse (1960), Kansu (1961, 1963), Bernardi (1970), Tauber (1970), Larsen (1974, 1982), Koçak (1975, 1976, 1977, 1979, 1982), Oorschot *et al.*, (1984), Hasselbach (1986), Wagener (1986), Leestmans *et al.*, (1986), Koçak and Seven (1994), Hesselbarth *et al.*, (1995), Atay (2012), Atay and Yolcu (2012). From the 76 species (2276 specimens) captured in the studied area, only 34 have been reported for the Amanos Mountains.

According to the studies on the Lepidoptera fauna within the Amanos Mountains, the funistic records from this area are as follows:

Thymelicus lineola: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 263); *Thymelicus sylvestris syriacus*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 263); *Carcharodus alceae*

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alceae: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 263); *Spialia orbifer orbifer*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 263); *Pyrgus sidae sidae*: Osmaniye: Yarbaşı, May–June 1914 (Rebel 1917a: 263); *Pyrgus melotis ponticus*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 263); *Pyrgus serratulae major*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 263); *Archon apollinus apollinus*: Osmaniye: Hasanbeyli, April 1973, March 1974, March–April 1976 (Koçak 1982b: 62), Hatay: Hassa: Akbez, March–April 1976 (Koçak 1982b: 61); *Papilio machaon syriacus*: Osmaniye: Yarbaşı, June 1914 (Rebel 1917a: 247), Osmaniye: Yarpuz, June 1914 (Rebel 1917a: 247); *Papilio alexanor eitschbergeri*: Osmaniye: Yarpuz, June 1914 (Rebel 1917a: 247); *Leptidea sinapis sinapis*: Osmaniye: Nurdağı, June 1985 (leg. et coll. Wagener); *Leptidea duponcheli lorkovici*: Osmaniye: Yarbaşı, 1914 (Rebel 1917a: 249); *Colias crocea*: Osmaniye: Yarpuz, June 1914 (Rebel 1917a: 250), Gaziantep: Entili, May 1914 (Rebel 1917a: 250); *Gonepteryx farinosa*: Gaziantep: Entili, May 1914 (Rebel 1917a); *Gonepteryx cleopatra taurica*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a), Osmaniye: Kaypak, May 1984 (leg. Van Oorschot *et al.* in coll.), Hatay: Hassa: Akbez, June 1972 (leg. Koçak in coll.); *Euchloe ausonia taurica*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 249), Gaziantep: Entili, May 1914 (Rebel 1917a: 249); *Pieris krueperi krueperi*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a); *Pontia (daplidice) edusa*: Gaziantep: Entili, May 1914 (Rebel 1917a: 249); *Cigaritis cilissa*: Osmaniye: Yarbaşı, April 1914 (Rebel 1917a: 259); *Cigaritis maxima*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 259); *Lycaena phlaeas phlaeas*: Osmaniye: Nurdağı, June 1973 (leg et coll. Wagener); *Lycaena tityrus tityrus*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 259), Osmaniye: Bahçe, June 1914 (Rebel 1917a: 259); *Tomares nesimachus*: Hatay: Daz Dağı, April 1914 (Rebel 1917a: 258); *Callophrys rubi*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 16), Osmaniye: Nurdağı, May 1985 (leg. et coll. Wagener); *Satyrrium spini*: Osmaniye: Yarbaşı (Rebel 1917a: 258); *Satyrrium abdominalis*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 258); *Tarucus balkanicus*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 259); *Pseudophilotes vicrama schiffermuelleri*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 260), Gaziantep: Entili, May 1914 (Rebel 1917a: 260); *Pseudophilotes bavius egea*: Hatay: Daz Dağı, Yarpuz, June 1914 (Rebel 1917a: 260), Hatay: Hassa: Akbez, June 1972 (Koçak 1979: 314); *Glaucopsyche alexis alexis*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 262), Osmaniye: Hasanbeyli, May 1988 (leg. et coll. Borie); *Glaucopsyche astraes astraes*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 262); *Glaucopsyche iolas lessei*: Osmaniye: Nurdağı, May 1985 (leg. et coll. Wagener); *Turanana endymion endymion*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 260), Osmaniye: Gavur Dağı (Staudinger 1878: 239); *Plebeius pylaon sephirus*: Osmaniye: Yarbaşı, June 1914 (Rebel 1917a: 259), Osmaniye: Nurdağı geçidi, May 1985 (leg. et coll. Wagener); *Plebeius loewii loewii*: Osmaniye: Yarbaşı, May–June 1914 (Rebel 1917a: 259); *Plebeius eurypilus eurypilus*: Gaziantep: Tahtaköprü, May 1972 (Koçak 1975a: 28); *Plebeius agestis*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 260), Gaziantep: Fevzipaşa, April 1991 (leg. Van Oorschot *et al.* in coll.), Gaziantep: Entili, May 1914 (Rebel 1917a: 260); *Plebeius anteros anteros*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 260); *Plebeius anteros crassipunctus*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 260); *Polyommatus semiargus antiochenus*: Osmaniye: Nurdağı, May 1985 (leg. et coll. Wagener), Gaziantep: Nurdağı, June 1985 (leg. et coll. Wagener), Gaziantep: Amanos Dağları Fevzipaşa, May 1986 (leg. et coll. Rose), Gaziantep: Sakçagözü, May 1985 (leg. Falkenhahn in coll. Eitschberger), Gaziantep: Akyokuş, May 1986 (leg. et coll. Rose), Hatay: Amanos Dağları W. Hassa, June 1974 (leg. Gross in coll. Eitschberger); *Polyommatus amandus amandus*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 261),

Table 1. Geographic locality coordinates of collected specimens in the Amanos Mountains, İslahiye, Turkey.

Locality	Locality coordinates	
	Nort	East
Hasanlök	36°54'09"	36°29'37"
Kayabaşı –Hasanlök	36°54'34"	36°30'35"
Yassidere	36°55'32"	36°29'59"
Alibal valley	36°55'35"	36°30'24"
Süt valley	36°56'06"	36°31'02"
Burdelik	36°55'44"	36°30'50"
Kayabaşı valley	36°55'41"	36°31'02"
Bekbağ	36°55'15"	36°31'25"
Sarıyöre	36°55'37"	36°31'06"
Kayabaşı	36°55'36"	36°31'11"
Castle	36°56'12"	36°31'33"
Altınüzüm	36°56'33"	36°32'30"
Kayabaşı-Yağızlar	36°56'34"	36°31'60"
Yağızlar	36°57'02"	36°28'50"
Huzurlu plateau	36°58'41"	36°28'59"
Tandır	36°57'43"	36°31'17"
Mezarlık	37°00'46"	36°39'41"
Çerçili	37°02'03"	36°35'21"
Kabaklar	37°01'43"	36°33'44"
Kabaklar valley	37°02'28"	36°34'10"

Osmaniye: Nurdağı, May 1985 (leg. et. coll. Wagener), May 1985 (leg. et. coll. Falkner); *Polyommatus icarus*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 260); *Polyommatus daphnis versicolor*: Hatay: Hassa; Akbez (Staudinger 1901: 86); *Polyommatus bellargus*: Osmaniye: Yarbaşı, May 1914 (Rebel 1917a: 261); *Maniola megela*: Hatay: Gavurdağı, Hassa, May 1966 (Tauber 1970: 106); *Maniola telmessia*: Osmaniye: Nurdağı, June 1973 (leg. et. coll. Wagener), May 1985 (leg. et. coll. Wagener); *Hyponephele lupina intermedia*: Osmaniye: Nurdağı, July 1980 (leg. et. coll. Wagener); *Melanargia syriaca syriaca*: Hatay: Akbez, June 1976 (leg. Koçak in coll. Wagener); *Melanargia titea standfussi*: Osmaniye: Yarbaşı May 1914 (Rebel 1917a: 255); *Hipparchia pellucida pellucida*: Gaziantep: Sakçagöz, May 1985 (leg. et. coll. Wagener); *Melitaea punica telona*: Osmaniye: Nurdağı, May 1989 (leg. Falkner in coll. Wagener); *Melitaea arduinna*: Osmaniye: Nurdağı, May 1985 (leg. et. coll. Wagener); *Melitaea didyma didyma*: Osmaniye: Nurdağı, May 1985 (leg. et. coll. Wagener); *Argynnis niobe orientalis*: Osmaniye: Nurdağı, May 1985 (leg. et. coll. Wagener), May 1985 (leg. et. coll. Falkner).

The objectives of this study were to investigate the butterfly fauna of the Amanos Mountains (İslahiye) in Gaziantep province and to contribute to the distribution knowledge of the Lepidoptera species in Turkey.

Materials and Methods

The Basin of Mediterranean Forests, woodlands and scrub is one of the 25 world biodiversity centers, and the Amanos Mountains is located within the boundaries of this Basin. The Amanos Mountains extends about 180 km from Kahramanmaraş to through the length of the Hatay province. It is the geographical and biological bridge that connects the Black Sea region with the Mediterranean region (Avcıoğlu and Lise, 2007).

Table 2. Locations and dates of collections of butterflies in the Amanos Mountains, İslahiye, Turkey.

#	Locality	Altitude	Date of collection
1	Hasanlök	650 m.	28 Apr 2007
2	Hasanlök N.	750 m.	03 Jun 2007
3	Hasanlök E.	750 m.	05 July 2007
4	Hasanlök W.	800 m.	05 Aug 2007
5	Hasanlök W.	800 m.	23 Aug 2007
6	Kayabaşı-Hasanlök	700 m.	16 Jun 2007
7	Yassı valley	750 m.	01 Aug 2006
8	Alibal valley	650 m.	21 Apr 2007
9	Süt valley	570 m.	02 Aug 2006
10	Burdelik	600 m.	06 Aug 2006
11	Burdelik	600 m.	14 Aug 2006
12	Burdelik N.	700 m.	24 July 2007
13	Burdelik N.	750 m.	28 July 2007
14	Kayabaşı valley	650 m.	15 Aug 2006
15	Kayabaşı valley.	650 m.	07 Oct 2006
16	Kayabaşı valley	700 m.	03 Jun 2007
17	Bekbağ	750 m.	07 Jul 2007
18	Sarıyöre	700 m.	14 Apr 2007
19	Kayabaşı	650 m.	10 Mar 2007
20	Kayabaşı	650 m.	18 Mar 2007
21	Kayabaşı	650 m.	21 Apr 2007
22	Kayabaşı	650 m.	29 Apr 2007
23	Kayabaşı	600 m.	05 May 2007
24	Kayabaşı	600 m.	26 May 2007
25	Kayabaşı N.	700 m.	02 Jun 2007
26	Kayabaşı N.	650 m.	09 Jun 2007
27	Kayabaşı N.	700 m.	01 Jul 2007
28	Kayabaşı N.	750 m.	20 Jul 2007
29	Kayabaşı N.	700 m.	03 Aug 2007
30	Kayabaşı N.	750 m.	26 Aug 2007
31	Kayabaşı N.	700 m.	07 Sep 2007
32	Castle	700 m.	05 May 2007
33	Castle	650 m.	26 May 2007
34	Castle	750 m.	10 Jun 2007
35	Altınüzüm	650 m.	16 Jun 2007
36	Kayabaşı-Yağızlar	600 m.	26 May 2007
37	Yağızlar	750 m.	28 Apr 2007
38	Yağızlar	800 m.	02 Jun 2007
39	Yağızlar	850 m.	31 Jul 2007
40	Yağızlar	850 m.	12 Aug 2007
41	Huzurlu plateau	1500 m.	14 Jul 2007
42	Huzurlu plateau	1500 m.	29 Jul 2007
43	Huzurlu plateau	1500 m.	02 Aug 2007
44	Huzurlu plateau	1500 m.	07 Aug 2007
45	Huzurlu plateau	1500 m.	09 Aug 2007
46	Tandır	700 m.	10 Jun 2007
47	Tandır	800 m.	04 Jul 2007
48	Tandır	800 m.	22 Jul 2007
49	Tandır	850 m.	28 Jul 2007
50	Mezarlık	500 m.	18 May 2007
51	Çerçili	550 m.	09 Jun 2007
52	Kabaklar	550 m.	06 May 2007
53	Kabaklar	550 m.	19 May 2007
54	Kabaklar	700 m.	02 Jul 2007
55	Kabaklar valley	600 m.	25 May 2007

Table 3. The distribution of species according to families in the Amanos Mountains (İslahiye, Turkey).

Family	Records for İslahiya according to literature	Identified in study area (Amanos mountains)	New for İslahiye district	Total
Papilionidae	3	5	2	5
Pieridae	7	13	7	14
Nymphalidae	11	28	19	30
Lycaenidae	11	18	10	21
Hesperiidae	2	12	10	12
5 Family	34 Species	76 Species	48 Species	82 Species

This study was conducted during the years 2006 and 2007 in the Amanos Mountains (İslahiye), Turkey in order to determine the diurnal lepidopteran fauna in the area. Fifty-five field surveys were carried out between March and October in different locality and habitat types within altitudes that range from 500 to 1500 m. Specimens were collected using a sweep net. Collected specimens were killed in killing jars with ethyl acetate. The collection date, name of the locality and altitude were noted on an envelope for every specimen collected, the specimen was then put into this envelope. All the material was brought to the laboratory for preparation and identification. All the butterfly specimens were pinned with wings spread, dried and put into collection boxes in the Entomological Research Laboratory of the Department of Biology, Mersin University. Identifications were based on the studies of Hesselbarth *et al.* (1995), Hofmann and Marktanner (1995), Tolman and Lewington (1997) and second author's reference collections.

All the material collected was kept in the Entomological Research Laboratory of the Department of Biology, Mersin University. The specimens have been collected from different stations during 55 field studies. The geographic coordinates of all collecting localities is cited in Table 1; information of localities, altitudes and collecting dates is chronologically listed in Table 2.

Results

During the field surveys, 2276 butterfly specimens have been collected. Next, we present the most commonly collected species per family, followed by the total number of specimens collected for each of these families: *Iphiclides podalirius* with 20 specimens, family Papilionidae (48 specimens); *Pieris (Artogeia) leucosoma* with 203 specimens, family Pieridae (556 specimens); *Vanessa cardui* with 82 specimens, family Nymphalidae (389 specimens); *Polyommatus icarus* with 496 specimens, family Lycaenidae (964 specimens); and *Pyrgus melotis* with 85 specimens, family Hesperiidae (319 specimens). The species with the lowest number of collected specimens were the next: *Papilio machaon* (1), *Anthocharis damone* (1), *Anthocharis gruneri* (1), *Gonepteryx farinose* (1), *Libythea celtis* (1), *Limenitis reducta* (1), *Melitaea arduinna* (1), *Melitaea collina* (1), *Poligonie egea* (1), *Vanessa atalanta* (1), *Cigaritis acamas* (1), *Carcharodus stauderi* (1) and *Muschampia tessellum* (1). In this study, a total of 76 species belonging to 48 genera within five families and two superfamilies of Lepidoptera were identified. Total species numbers according to families are as follows: Papilionidae (5); Pieridae (13); Nymphalidae (28); Lycaenidae (18) and Hesperiidae (12) (Table 3). The list of species has been arranged according to Hesselbarth *et al.* (1995); Koçak and Kemal (2009);

Table 4. Systematic list of butterfly species collected in the Amanos Mountains (İslahiye, Turkey). (Locality numbers are as in Table 2).

Superfamily: PAPILIONOIDEA Latreille, (1802)	
Family: PAPILIONIDAE Latreille, (1802)	Locality numbers
<i>Archon apollinus</i> (Herbst, 1798)	20, 18, 37
* <i>Iphiclydes podalirius</i> (Linnaeus, 1758)	9, 14, 21, 32, 24, 48, 49, 42, 40, 31
<i>Papilio machaon</i> Linnaeus, 1758	51
<i>Zerynthia (Allancastris) deyrollei</i> (Oberthür, 1869)	1, 32, 52, 36, 25
* <i>Zerynthia (Allancastris) cerisyi</i> (Godart, 1822)	18, 1, 23, 32, 36
Family: PIERIDAE Duponchel, (1835)	
* <i>Anthocharis cardamines</i> (Linnaeus, 1758)	18, 21, 8, 1, 37, 22, 23, 32, 52
* <i>Anthocharis damone</i> Boisduval, 1836	18
* <i>Anthocharis gruneri</i> Herrich-Schäffer, [1851]	8
* <i>Aporia crataegi</i> (Linnaeus, 1758)	23, 55, 36, 51
<i>Colias (Eriocolias) crocea</i> (Fourcroy, 1785)	9, 10, 11, 14, 15, 21, 1, 37, 23, 32, 52, 53, 55, 24, 36, 33, 25, 38, 2, 26, 46, 34, 6, 27, 47, 17, 41, 42, 29, 45, 5, 30, 31
<i>Euchloe ausonia</i> (Hübner, [1804])	8, 37, 23, 52, 50, 53, 55, 34, 47, 28, 48
<i>Gonepteryx farinosa</i> (Zeller, 1847)	46
* <i>Gonepteryx (Isogonepteryx) cleopatra</i> (Linnaeus, 1767)	52, 50, 38, 16, 51, 26, 46, 6
<i>Pieris brassicae</i> (Linnaeus, 1758)	7, 9, 10, 11, 14, 15, 19, 20, 18, 21, 8, 1, 37, 22, 23, 52, 53, 55, 24, 38, 51, 34, 6, 27, 54, 41, 28, 48, 42, 29, 43, 44, 45, 30, 31
* <i>Pieris (Artogeia) ergane</i> (Geyer, [1828])	9, 19, 20, 3; 18, 21, 8, 37, 22, 50, 53
* <i>Pieris (Artogeia) pseudorapae</i> Verity, 1908	7, 15, 18, 21, 8, 22, 23, 38, 42
<i>Pieris (Artogeia) rapae</i> (Linnaeus, 1758)	7, 9, 10, 11, 14, 15, 18, 21, 8, 1, 37, 22, 23, 32, 52, 50, 53, 55, 24, 36, 33, 38, 16, 2, 51, 26, 46, 34, 35, 6, 27, 47, 3, 41, 28, 48, 12, 42, 29, 44, 45, 40, 5, 30, 31
<i>Pontia edusa</i> (Fabricius, 1777)	9, 11, 14, 52, 50, 53, 55, 33, 38, 2, 26, 46, 35, 6, 54, 3, 17, 48, 13, 49, 42, 44, 40, 5
NYMPHALIDAE Swainson, 1827	
* <i>Libythea celtis</i> (Laicharting, 1782)	19
<i>Argynnis (Pandoriana) pandora</i> [Denis & Schiffermüller], 1775)	14, 51, 26, 30
* <i>Issoria lathonia</i> (Linnaeus, 1758)	8, 37, 26
<i>Limenitis reducta</i> Staudinger, 1901	14
* <i>Melitaea arduinna</i> (Fabricius, 1787)	32
* <i>Melitaea (Cinclidia) phoebe</i> (Goeze, 1779)	1, 37, 23, 32, 53, 55, 24, 25, 34
<i>Melitaea (Cinclidia) punica</i> Oberthür, 1876	32, 33, 51
* <i>Melitaea (Cinclidia) collina</i> Lederer, 1861	1
* <i>Melitaea (Didymaeformis) didyma</i> (Esper, [1779])	23, 24, 36, 25, 38, 16, 2, 51, 26, 46, 34, 6, 27, 54, 47, 28, 48, 13, 49, 29, 45
<i>Melitaea (Didymaeformis) fascelis</i> (Fabricius, 1787)	9, 23, 32, 52, 53, 25, 16, 2, 35, 54, 3, 17, 28, 48, 13, 49, 42, 5
* <i>Nymphalis polychloros</i> (Linnaeus, 1758)	19, 1
* <i>Polygonia (Comma) c-album</i> (Linnaeus, 1758)	7, 19
* <i>Polygonia (Comma) egea</i> (Cramer, [1775])	31
* <i>Vanessa atalanta</i> (Linnaeus, 1758)	21
* <i>Vanessa cardui</i> (Linnaeus, 1758)	7, 11, 18, 21, 1, 37, 22, 23, 32, 52, 50, 53, 24, 36, 33, 25, 38, 26, 46, 34, 54, 47, 41, 28, 48, 13, 49, 42, 29, 29, 44, 40
* <i>Brintesia circe</i> (Fabricius, 1755)	51, 6

Table 4. Continued.

NYMPHALIDAE Swainson, 1827		Locality numbers
<i>*Hipparchia (Neohipparchia) fatua</i> (Freyer, 1844)	28, 12	
<i>Hipparchia (Parahipparchia) aristaeus</i> (Bonelli, 1826)	15, 24	
<i>Hipparchia (Parahipparchia) mersina</i> (Staudinger, 1871)	15, 53, 24	
<i>Hipparchia (Parahipparchia) pellucida</i> (Stauder, 1924)	15, 24	
<i>*Hyponephele lupina</i> (Costa, [1836])	7, 9, 10, 14, 26, 47, 29, 29, 4, 44, 45, 30	
<i>*Kirinia (Melike) roxelana</i> (Cramer, [1777])	53, 24, 38, 26, 34, 6, 31	
<i>*Lasioommata maera</i> (Linnaeus, 1758)	14, 21, 2, 6, 27, 49, 29, 4, 5	
<i>*Lasioommata megera</i> (Linnaeus, 1767)	21, 33	
<i>Maniola (Telmessiola) telmessia</i> (Zeller, 1847)	7, 14, 53, 55, 24, 36, 38, 16, 51, 46, 34, 47, 41, 45, 30	
<i>Melanargia (Turcargia) titea</i> (Klug, 1832)	25, 28, 53, 36	
<i>*Pararge aegeria</i> (Linnaeus, 1758)	9, 10, 14, 15, 18, 21, 37, 22, 26, 6, 28, 42, 44	
<i>*Pseudochazara (Achazara) telephassa</i> (Geyer, [1827])	7, 9, 14	
Family: LYCAENIDAE Stephens, 1829		
<i>*Celastrina argiolus</i> (Linnaeus, 1758)	46, 12	
<i>Chilades (Freyeria) trochylus</i> (Freyer, [1843])	14, 2, 54, 13, 49, 29, 44, 5	
<i>*Cigaritis acamas</i> (Klug, 1834)	29	
<i>Glaucopsyche alexis</i> (Poda, 1761)	8, 37, 23, 32, 52, 53, 47	
<i>Lampides boeticus</i> (Linnaeus, 1767)	11, 14, 15, 46, 13, 29, 44, 45	
<i>Leptotes pirithous</i> (Linnaeus, 1767)	9, 10, 14, 41, 28, 13, 42, 29, 44, 45, 5, 30	
<i>*Lycaena (Loweia) tityrus</i> (Poda, 1761)	8, 37, 24, 27	
<i>Lycaena (Thersamonia) thersamon</i> (Esper, [1784])	9, 10, 11, 14, 15, 37, 23, 32, 52, 53, 55, 38, 2, 46, 35, 6, 27, 17, 41, 12, 49, 42, 39, 29, 29, 4, 45, 40, 5, 30, 31	
<i>Lycaena phlaeas</i> (Linnaeus, 1761)	9, 10, 11, 14, 18, 8, 37, 23, 32, 53, 55, 38, 2, 51, 46, 35, 6, 27, 54, 3, 17, 41, 28, 12, 13, 42, 39, 29, 29, 4, 44, 45, 40, 5, 30, 31	
<i>*Plebejus (Plebejides) nichollae</i> (Elwes, 1901)	55, 36, 2, 51	
<i>*Polyommatus (Albulina) loewii</i> (Zeller, 1847)	26, 35	
<i>Polyommatus (Aricia) agestis</i> ([Denis & Schiffermüller], 1775)	9, 10, 14, 18, 8, 1, 37, 22, 23, 53, 55, 24, 33, 38, 16, 2, 51, 26, 46, 35, 6, 27, 47, 17, 41, 12, 13, 42, 29, 29, 4, 44, 45, 40, 5, 30, 31	
<i>*Polyommatus (Plebicula) amandus</i> (Schneider, 1792)	53	
<i>Polyommatus icarus</i> Rottemburg, 1775	7, 9, 10, 11, 14, 15, 18, 8, 37, 23, 32, 52, 53, 55, 24, 33, 38, 16, 2, 51, 26, 46, 34, 35, 6, 27, 54, 47, 3, 17, 41, 28, 48, 12, 13, 49, 42, 39, 29, 29, 44, 45, 40, 5, 30, 31	
<i>*Satyrium (Nordmannia) abdominalis</i> (Gerhard, [1850])	24, 38, 16, 34	
<i>*Satyrium (Nordmannia) ilicis</i> (Esper, [1779])	16, 26	
<i>*Tarucus balkanicus</i> (Freyer, [1843])	16, 49, 5	
<i>*Zizeeria karsandra</i> (Moore, 1865)	15, 5	
Superfamily: HESPERIOIDEA Latreille, 1809		
Family: HESPERIIDAE Latreille, 1809		
<i>Carcharodus (Lavatheria) stauderi</i> Reverdin, 1913	7	
<i>*Carcharodus (Reverdinus) orientalis</i> Reverdin, 1913	1, 55, 2, 13, 29	
<i>*Carcharodus alceae</i> (Esper, [1780])	10, 14, 15, 20, 21, 1, 37, 22, 32, 53, 55, 38, 2, 46, 27, 17, 12, 13, 49, 42, 39, 29, 4, 45, 40, 5, 30, 31	

Table 4. Continued.

Superfamily: HESPERIOIDEA Latreille, 1809	
Family: HESPERIIDAE Latreille, 1809	Locality numbers
* <i>Erynnis tages</i> (Linnaeus, 1758)	21, 22, 2, 27, 47, 3, 17, 13
<i>Gegenes pumilio</i> (Hoffmannsegg, 1804)	14, 15, 41, 48, 49, 42, 39, 29, 4, 44, 45, 40, 5, 30
* <i>Muschampia tessellum</i> (Hübner, [1802])	53
* <i>Pyrgus armoricanus</i> (Oberthür, 1910)	12, 30
* <i>Pyrgus cinarae</i> (Rambur, [1839])	30
* <i>Pyrgus melotis</i> (Duponchel, [1834])	10, 14, 20, 18, 21, 8, 1, 37, 22, 23, 32, 52, 53, 55, 24, 2, 47, 12, 42, 29, 40, 31
* <i>Spialia</i> (<i>Neaspialia</i>) <i>orbifer</i> (Hübner, [1823])	7, 8, 37, 22, 23, 32, 52, 53, 55, 24, 36, 25, 38, 16, 2, 51, 26, 46, 34, 27, 54, 47, 12, 13, 29, 5
* <i>Thymelicus hyrax</i> (Lederer, 1861)	46
* <i>Thymelicus sylvestris</i> (Poda, 1761)	50, 53, 55, 24, 36, 33, 25, 38, 51, 46, 34, 35, 6, 47

* The first record for İslahiye fauna.

Wahlberg *et al.* (2009) and Heikkilä *et al.* (2012). The systematic list of butterfly species and corresponding locality numbers (from Table 2) are given in Table 4.

The distribution of species according to vegetation layers and altitude in the Amanos Mountains is given in Table 5. Information about the number of specimens collected per species during the collecting period (months) is presented in Table 6.

Discussion

Detailed studies must be done for the determination of the biological richness in all regions of Turkey. At this point, we could not find not sufficient faunistic and ecological information in the revised literature about the Amanos Mountains (İslahiye). In industrialized countries, Lepidoptera species are confronted with extinction due to environmental pollution, destruction of biotopes, as well as factors such as the effect of pesticides and chemicals. In addition to this, some species are in danger of extinction as a result of over-collection for commercial purposes. The continuing illegal use of forests and incorrect land use practices threaten to destroy the fauna diversity in the Amanos Mountains (İslahiye); therefore, illegal use of forests, incorrect land use, and the unconscious and excessive collecting of butterfly specimens should be avoided and punished with legal sanctions. Additionally, detailed studies should be carried out as quickly as possible to determine the biological diversity of the Amanos Mountains.

This study represents the first effort to determine the Butterfly fauna in the Amanos Mountains (İslahiye), Turkey. According to the literature review, only 34 butterfly species have been reported from study area. In this study 76 species belonging to five families and two superfamilies from the order Lepidoptera were identified. These families, number of species and their collecting frequency are the next: *Papilionidae* (5, %6.5); *Pieridae* (13, %17); *Nymphalidae* (28, %37); *Lycaenidae* (18, %23.5) and *Hesperiidae* (12, %16). Forty-eight of the 76 species identified in this study are first records for the Lepidoptera fauna of the study area in the Amanos Mountains (İslahiye), and nine of them are first records for the Gaziantep province. Unfortunately, due to security problems, we could not work in some area. The

Table 5. The distribution of species according to vegetation layers and altitude in the Amanos Mountains.

Family	Species	Specimen	The Mediterranean main vegetation layer				Upper Mediterranean vegetation layer
			Altitude (m.)				Altitude (m.)
			500–599	600–699	700–799	800–999	1000–1500
Papilionidae	<i>Archon apollinus</i>	13		8	5		
	<i>Iphiclides podalirius</i>	20	3	10	2	3	2
	<i>Papilio machaon</i>	1	1				
	<i>Zerynthia cerisyi</i>	7		5	2		
	<i>Zerynthia deyrollei</i>	7	1	4	2		
Pieridae	<i>Anthocharis cardamines</i>	29	1	22	6		
	<i>Anthocharis damone</i>	1			1		
	<i>Anthocharis gruneri</i>	1		1			
	<i>Aporia crataegi</i>	6	1	5			
	<i>Euchloe ausonia</i>	32	21	3	3	5	
	<i>Pieris brassicae</i>	111	22	47	33	2	7
	<i>Pieris ergane</i>	35	6	19	10		
	<i>Pieris pseudorapae</i>	15		9	4	1	1
	<i>Pieris leucosoma</i>	203	26	69	81	15	12
	<i>Pontia edusa</i>	35	5	10	13	5	2
	<i>Colias crocea</i>	75	10	34	22	3	6
	<i>Gonepteryx cleopatra</i>	12	4	3	4	1	
	<i>Gonepteryx farinosa</i>	1			1		
Nymphalidae	<i>Libythea celtis</i>	1		1			
	<i>Argynnis pandora</i>	9	4	4	1		
	<i>Issoria lathonia</i>	3		2	1		
	<i>Limenitis reducta</i>	1		1			
	<i>Melitaea arduinna</i>	1			1		
	<i>Melitaea collina</i>	1		1			
	<i>Melitaea didyma</i>	57	1	13	29	13	1
	<i>Melitaea phoebe</i>	13	1	8	4		
	<i>Melitaea punica</i>	3	1	1	1		
	<i>Melitaea fascelis</i>	61	10	9	37	3	2
	<i>Nymphalis polychloros</i>	2		2			
	<i>Polignia c-albium</i>	3		2	1		
	<i>Polignia egea</i>	1			1		
	<i>Vanessa atalanta</i>	1		1			
	<i>Cynthia cardui</i>	82	9	20	20	29	4
	<i>Brintesia circe</i>	3	2		1		
	<i>Hipparchia aristaeus</i>	2		2			
	<i>Hipparchia fatua</i>	2			2		
	<i>Hipparchia mersina</i>	5	2	3			
	<i>Hipparchia pellucida</i>	7		7			
	<i>Hyponephele lupina</i>	28	1	4	16	3	4
	<i>Pseudochazara telephassa</i>	4	1	1	2		
	<i>Kirinia roxelana</i>	9	1	2	3	3	
	<i>Lasiommata maera</i>	12		3	4	5	
	<i>Lasiommata megera</i>	2		2			
	<i>Maniola telmessia</i>	41	9	19	9	2	2
	<i>Melanargia titea</i>	9	1	4	4		
	<i>Pararge aegeria</i>	26	1	18	4		3
Lycaenidae	<i>Celastrina argiolus</i>	2			2		
	<i>Chilades trochylus</i>	14		1	7	5	1
	<i>Cigaritis acamas</i>	1			1		

Table 5. Continued.

Family	Species	Specimen	The Mediterranean main vegetation layer				Upper Mediterranean
			Altitude (m.)				vegetation layer
			500–599	600–699	700–799	800–999	Altitude (m.) 1000–1500
Hesperiidae	<i>Glaucopsyche alexis</i>	24	10	2	9	3	
	<i>Lycaena tityrus</i>	4		2	2		
	<i>Lampides boeticus</i>	14		5	4		5
	<i>Leptotes pirithous</i>	33	2	6	13	1	11
	<i>Lycaena phleas</i>	157	3	40	64	16	34
	<i>Lycaena thersamon</i>	85	14	32	21	10	8
	<i>Polyommatus agestis</i>	108	4	31	45	9	19
	<i>Polyommatus loewii</i>	2		2			
	<i>Plebejus nichollae</i>	5	1	2	2		
	<i>Polyommatus amandus</i>	2	2				
	<i>Polyommatus icarus</i>	496	17	122	244	50	63
	<i>Satyrrium abdominalis</i>	5		2	2	1	
	<i>Satyrrium ilicis</i>	2		1	1		
	<i>Tarucus balkanicus</i>	7			1	6	
	<i>Zizeeria karsandra</i>	3		1		2	
	<i>Carcharodus alceae</i>	66	1	21	20	20	4
	<i>Carcharodus orientalis</i>	8		3	5		
	<i>Carcharodus stauderi</i>	1			1		
	<i>Erynnis tages</i>	10		2	7	1	
	<i>Gegenes pumilio</i>	40		4	5	24	7
	<i>Muschampia tessellum</i>	1	1				
	<i>Pyrgus armaricanus</i>	2			2		
	<i>Pyrgus melotis</i>	85	8	42	25	7	3
	<i>Pyrgus cinarae</i>	2			2		
	<i>Spialia orbifer</i>	57	5	15	31	6	
	<i>Thymelicus hyrax</i>	3			3		
	<i>Thymelicus sylvestris</i>	44	5	10	16	13	
Total Species		76	39	60	60	31	22
Total Specimens		2276	218	725	865	267	201

following species have been previously reported in the literature of the Lepidoptera fauna of İslahiye that could not be found in the study area: *Leptidea sinapis* (Linnaeus, 1758), *Argynnis niobe* (Linnaeus, 1758), *Melitaea cinxia* (Linnaeus, 1758), *Plebejus carmon* (Gerhard, [1851]), *Polyommatus bellis* (Freyer, 1842) and *Pseudophilotes vicrama* (Moore, 1865).

In conclusion, according to the literature and the results of this study, the Papilionoidea and Hesperioidea fauna inhabiting in the Amanos Mountains (İslahiye) is represented by 82 species, but this number is expected to increase over time. This study represents a small contribution to the knowledge of the Lepidoptera fauna of the Amanos Mountains in the Eastern Mediterranean region (Gaziantep province) of Turkey.

New studies considering other insect groups should be carried out before agricultural and forest ecosystems are destroyed. Faunistic and ecologic studies in the Amanos Mountains are very limited in number. Finally, plant species used by Lepidoptera as a source of food should be identified and protected.

Table 6. The distribution of species according to the months in the Amanos Mountains.

Family	Species	Specimen	Months							
			Mar.	April	May	June	July	August	September	October
Papilionidae	<i>Archon apollinus</i>	13	8	5						
	<i>Iphiclides podalirius</i>	20		1	2		4	12	1	
	<i>Papilio machaon</i>	1				1				
	<i>Zerynthia cerisyi</i>	7		2	5					
	<i>Zerynthia deyrollei</i>	7		1	5	1				
Pieridae	<i>Anthocharis</i>	29		22	7					
	<i>cardamines</i>									
	<i>Anthocharis damone</i>	1		1						
	<i>Anthocharis gruneri</i>	1		1						
	<i>Aporia crataegi</i>	6			5	1				
	<i>Euchloe ausonia</i>	32		2	23	1	6			
	<i>Pieris brassicae</i>	111	3	30	12	8	7	48	2	1
	<i>Pieris ergane</i>	35	7	22	3			3		
	<i>Pieris pseudorapae</i>	15		10	1	1	1	1		1
	<i>Pieris leucosoma</i>	203		9	43	43	25	66	15	2
	<i>Pontia edusa</i>	35			9	7	13	6		
	<i>Colias crocea</i>	75		4	24	15	7	21	3	1
	<i>Gonepteryx cleopatra</i>	12			2	10				
	<i>Gonepteryx farinosa</i>	1				1				
Nymphalidae	<i>Libythea celtis</i>	1	1							
	<i>Argynnis pandora</i>	9				7		2		
	<i>Issoria lathonia</i>	3		2		1				
	<i>Limenitis reducta</i>	1						1		
	<i>Melitaea arduinna</i>	1			1					
	<i>Melitaea collina</i>	1		1						
	<i>Melitaea didyma</i>	57			10	25	20	2		
	<i>Melitaea phoebe</i>	13		2	9	2				
	<i>Melitaea punica</i>	3			2	1				
	<i>Melitaea fascelis</i>	61			19	18	22	2		
	<i>Nymphalis polychloros</i>	2	1	1						
	<i>Poligonía c-album</i>	3	2					1		
	<i>Poligonía egea</i>	1							1	
	<i>Vanessa atalanta</i>	1		1						
	<i>Cynthia cardui</i>	82		13	19	8	35	7		
	<i>Brintesia circe</i>	3				3				
	<i>Hipparchia aristaeus</i>	2			1					1
	<i>Hipparchia fatua</i>	2					2			
	<i>Hipparchia mersina</i>	5			3					2
	<i>Hipparchia pellucida</i>	7			1					6
	<i>Hyponephele lupina</i>	28				1	1	26		
	<i>Pseudochazara</i>	4						4		
	<i>telephassa</i>									
	<i>Kirinia roxelana</i>	9			2	6			1	
	<i>Lasiommata maera</i>	12		1		2	2	7		
	<i>Lasiommata megera</i>	2		1	1					
	<i>Maniola telmessia</i>	41			24	11	2	4		
	<i>Melanargia titea</i>	9			5	3	1			
	<i>Pararge aegeria</i>	26		6		2	2	12		4
Lycaeindae	<i>Celastrina argiolus</i>	2				1	1			
	<i>Chilades trochylus</i>	14				2	6	6		
	<i>Cigaritis acamas</i>	1						1		
	<i>Glaucopsyche alexis</i>	24		2	19		3			
	<i>Lycaena tityrus</i>	4		2	1		1			

Table 6. Continued.

Family	Species	Specimen	Months							
			Mar.	April	May	June	July	August	September	October
Hesperiidae	<i>Lampides boeticus</i>	14				2	1	9		2
	<i>Leptotes pirithous</i>	33					11	22		
	<i>Lycaena phleas</i>	157		7	10	14	29	86	11	
	<i>Lycaena thersamon</i>	85		2	19	5	12	40	5	2
	<i>Polyommatus agestis</i>	108		13	14	22	14	41	4	
	<i>Polyommatus loewii</i>	2				2				
	<i>Plebejus nichollae</i>	5			2	3				
	<i>Polyommatus</i> <i>amandus</i>	2			2					
	<i>Polyommatus icarus</i>	496		10	24	66	177	210	6	3
	<i>Satyrrium abdominalis</i>	5			2	3				
	<i>Satyrrium ilicis</i>	2				2				
	<i>Tarucus balkanicus</i>	7				1	5	1		
	<i>Zizeeria karsandra</i>	3						2		1
	<i>Carcharodus alceae</i>	66	1	4	6	7	20	23	1	4
	<i>Carcharodus</i> <i>orientalis</i>	8		2	1	3	1	1		
	<i>Carcharodus stauderi</i>	1						1		
	<i>Erynnis tages</i>	10		2		2	6			
	<i>Gegenes pumilio</i>	40					18	21		1
	<i>Muschampia</i> <i>tessellum</i>	1			1					
	<i>Pyrgus armaricanus</i>	2					1	1		
	<i>Pyrgus melotis</i>	85	1	35	18	2	14	13	2	
	<i>Pyrgus cinarae</i>	2						2		
	<i>Spialia orbifer</i>	57		6	13	17	18	3		
	<i>Thymelicus hyrax</i>	3				3				
	<i>Thymelicus sylvestris</i>	44			10	28	6			
Total Species		76	8	33	41	44	35	36	12	14
Total Specimens		2276	24	223	380	364	494	708	52	31

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