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# Lepidoptera fauna in aegean region of Turkey

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**Abstract:** In this study, the fauna of Papilionoidea and Hesperioidea (Lepidoptera) in Aegean region (Southwest Turkey) has been investigated. Information regarding field studies which were carried out during years 2003 and 2004 was given. The specimens of the order Lepidoptera have been collected from 35 different localities. It has been determined that these specimens are belonging to 87 species distributed in 7 families. The distribution of species (according to families) were given as: Papilionidae (3); Pieridae (12); Libytheidae (1); Argynnidae (11); Satyridae (18); Lycaenidae (25) and Hesperidae (8).

**Keywords:** Lepidoptera, Papilionoidea, Hesperioidea, Fauna, Aegean, Turkey

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## 1. Introduction

Lepidoptera, butterflies and moths, are very common insects and well known because of their very attractive colours and patterns on their wings. This order is recognized as one of the largest order of insects (Romoser and Stoffolana, 1994) having more than 120 000 described species (Groombridge, 1992). Lepidoptera are found in a wide variety of habitats but are almost always associated with higher plants, especially angiosperms. Nielsen and Common (1991) suggested that the evolution of the proboscis was a major factor in the success of the order. Adults of the majority of extant species feed on nectar, the juice of overripe fruit or other liquids. Larvae of almost all species are phytophagous, and no parts of plants remain unexploited. Because of their phytophagous habits and high reproductive rate, many species are important pests (Gillott, 2005) (Ayberk et al., 2010).

Although Lepidoptera is one of the largest orders among insects in terms of the number of species, studies carried out in Turkey to determine the fauna and distribution of Lepidoptera are not complete yet. There are several regional studies about Lepidoptera fauna in Turkey (Can, 2008; Hüseyinoğlu, 2000; Kaygin et al., 2009; Koçak and Seven, 1994, 1995; Koçak and Kemal, 2008, 2009, 2012; Kudrna, 1983; Lederer, 1855; Okyar and Aktaş, 1998). According to Karaçetin and Welch (2011) by now a total of 380 butterflies species were have been determined in Turkey. The objectives of this study were to investigate the Lepidoptera fauna of Aegean region in

particular and to determine the distribution of Lepidoptera species and contribute to the knowledge of the Lepidoptera fauna of Turkey in general.

## 2. Main Body

This study was conducted during years 2003 and 2004 in Aegean region for determination fauna of Lepidoptera in the area. The Afyonkarahisar, İzmir, Kütahya and Manisa are located in Aegean region in South west Turkey. The field studies carried out during April- October in 35 different localities and habitat types between altitudes 350 to 1700m. Specimens were collected using a sweep net. Collected specimens were killed in killing jars with ethyl acetate. During the collection, the collection date, name of the locality and altitude were noted on a piece of envelope for every specimen. Each specimen was then put into this envelope and all materials were brought to the laboratory for preparation and identification. All the butterfly specimens were pinned with wings spread, dried, and put into collection boxes. For identification of specimens, different studies such as Hesselbarth *et al.*, (1995), Hofmann and Marktanner (1995), Tolman and Lewington (1997) and author's collections of comparative materials were used.

## 3. Results

A total of 87 species belonging to 7 families and 2 super families of the order Lepidoptera were identified. The

highest number of species belongs to Lycaenidae (25, 32%), followed by Satyridae (18, 23%), Pieridae (12, 15.5%), Argynnididae (11, 14%), Hesperidae (8, 10%), Papilionidae (3, 4%) and Libytheidae (1, 1.5%). The number of species in each family and their ratios to the families were given in Table 1.

**Table 1.** Number of species and rates of families in Aegean region.

Family	Number of species	Rate (%)
Papilionidae	3	4
Pieridae	12	15.5
Libytheidae	1	1.5
Argynnididae	11	14
Satyridae	18	23
Lycaenidae	25	32
Hesperidae	8	10
Total	78	100

The systematic list of species has been formed according to Koçak and Kemal (2009). The capturing dates and the collecting locations about each specimen have been arranged as follow.

Order: LEPIDOPTERA

Suborder: RHOPALOCERA

Superfamily: **PAPILIONOIDEA** Latreille, (1802)

Family: **PAPILIONIDAE** Latreille, (1802)

*Iphiclides podalirius* (Linnaeus, 1758)

İzmir: Kemalpaşa Sarıçalı 350m. 22.07.2003; 350m. 27.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula Alaşehir road 650m. 19.06.2004; Kula Sabuncu 760m. 24.06.2004; Kula İncesu 710m. 15.08.2004; Kütahya 950m. 17.07.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Papilio machaon* Linnaeus, 1758

İzmir: Kemalpaşa Sarıçalı 350m. 18.07.2003; 350m. 22.07.2003; 350m. 27.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula 670m. 25.07.2003; Kula-Alaşehir road 650m. 19.06.2004.

*Zerynthia (Allancastris) deyrollei* (Oberthür, 1869)

Afyonkarahisar: A. N. S. Kampüsü 1020m. 17.06.2004.

Family: **PIERIDAE** Duponchel, (1835)

*Anthocharis cardamines* (Linnaeus, 1758)

Afyonkarahisar: Şehitlik 1050m. 03.06.2003; Hocalar Yalvaçlar 900m. 14.06.2003; Erkmen 1020m. 14.04.2004; Mttalip Location 1025m. 20.05.2004.

*Aporia crataegi* (Linnaeus, 1758)

Afyonkarahisar: Hocalar Yalvaçlar 900m. 14.06.2003.

*Colias crocea* (Fourcroy, 1785)

Afyonkarahisar: Hocalar Yalvaçlar 900m. 14.06.2003; Sandıklı Akdağlar Sorkun Oktur plateau 1500m. 22.07.2003; Mttalip Location 1025m. 20.05.2004; Çakırköy 1030m. 23.04.2004; Şuhut, Yatağan mountain 1200m. 20.05.2004; Mttalip Location 1025m. 25.06.2004; İzmir: Kemalpaşa Sarıçalı 350m. 22.07.2003; Sarıçalı 350m. 27.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula Yurtbaş 600m. 16.05.2003; Kula-Alaşehir road 650m. 19.06.2004; Kula Sabuncu

760m. 24.06.2004; Kula Yurtbaş 600m. 27.06.2004; Kütahya 950m. 17.07.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Colias alfacariensis* Ribber, 1905

Afyonkarahisar: Şehitlik 1050m. 03.06.2003; Kütahya Çamlıca 980m. 02.08.2004.

*Euchloe ausonia* (Hübner, [1804])

Afyonkarahisar: Şehitlik 1050m. 03.06.2003; Çakırköy 1030m. 07.04.2004; 1030m. 21.04.2004; 1030m. 23.04.2004.

*Gonepteryx farinosa* (Zeller, 1847)

Afyonkarahisar: Sandıklı Akdağlar Sorkun Oktur vil-lage 1500m. 22.07.2003; Çakırköy 1030m. 07.04.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Gonepteryx rhamni* (Linnaeus, 1758)

Afyonkarahisar: Çakırköy 1030m. 07.04.2004; Erkmen 1020m. 14.04.2004; Çakırköy 1030m. 21.04.2004; 1030m. 23.04.2004.

*Pieris brassicae* (Linnaeus, 1758)

Afyonkarahisar: Çakırköy 1030m. 23.04.2004; İzmir: Kemalpaşa Sarıçalı 350m. 22.07.2003; 350m. 27.07.2003; Hamza baba 360m. 04.08.2003; Kula Yakabağ Location 750m. 17.05.2003; Kula Çayır Location 650m. 24.06.2003; Kula-Alaşehir road 650m. 19.06.2004; Kula Sabuncu 760m. 24.06.2004; Kula Bozdağlar, Kurşunlu 800m. 26.09.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Pieris (Artogeia) rapae* (Linnaeus, 1758)

Afyonkarahisar: Hocalar Yalvaçlar 900m. 14.06.2003; Erkmen 1020m. 14.04.2004; Mttalip Location 1025m. 20.05.2004; 1025m. 25.06.2004; İzmir: Kemalpaşa Sarıçalı 350m. 18.07.2003; 350m. 22.07.2003; 350m. 27.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula-Alaşehir road 650m. 19.06.2004; Kula Sabuncu 760m. 24.06.2004; Kula İncesu 710m. 15.08.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Pieris (Artogeia) pseudorapae* Verity, 1908

Afyonkarahisar: Şehitlik 1050m. 03.06.2003; Sandıklı, Akdağlar 1700m. 21.07.2003; Sandıklı, Sorkun Oktur plateau 1500m. 22.07.2003; Çakırköy 1030m. 07.04.2004; 1030m. 21.04.2004; 1030m. 23.04.2004; Şuhut, Yatağan Mountain 1200m. 20.05.2004; Mttalip Location 1025m. 25.06.2004; İzmir: Kemalpaşa Sarıçalı 350m. 18.07.2003; 350m. 22.07.2003; 350m. 27.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula Sabuncu 760m. 24.06.2004; Kula İncesu 710m. 15.08.2004; Kula Bozdağlar, Kurşunlu 800m. 26.09.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Pontia chloridice* (Hübner, [1813])

İzmir: Kemalpaşa Sarıçalı 350m. 18.07.2003; 350m. 22.07.2003.

*Pontia edusa* (Fabricius, 1777)

Afyonkarahisar: Çakırköy 1030m. 07.04.2004; Şuhut, Yatağan mountain 1200m. 20.05.2004; Erkmen 1050m. 04.06.2004; İzmir: Kemalpaşa Sarıçalı 350m. 18.07.2003; 350m. 22.07.2003; 350m. 27.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula Yakabağ Location 750m.

17.05.2003; Kula-Alaşehir road 650m. 19.06.2004; Kula Yurtbaşı 600m. 27.06.2004; Kula İncesu 710m. 15.08.2004; Kütahya 950m. 17.07.2004.

Family: **LIBYTHEIDAE** Boisduval, 1833

*Libythea celtis* (Laicharting, 1782)

Afyonkarahisar: Çakırköy 1030m. 23.04.2004; Mttalip Location 1025m. 20.05.2004.

Family: **ARGYNNIDAE** Duponchel, [1835]

*Argynnis (Pandoriana) pandora* ([Denis & Schiffmüller], 1775)

Afyonkarahisar: Sandıklı Akdağlar, karanlık stream 1700m. 21.07.2003; Manisa: Kula Yakabağ Location 750m. 17.05.2003.

*Argynnis (Speyeria) aglaja* (Linnaeus, 1758)

Afyonkarahisar: Sandıklı Akdağlar Sorkun Oktur plateau 1500m. 22.07.2003; Kütahya Çamlıca 980m. 02.08.2004.

*Issoria lathonia* (Linnaeus, 1758)

Afyonkarahisar: Hocalar Yalvaçlar 900m. 14.06.2003; Çakırköy 1030m. 07.04.2004; Erkmén 1020m. 14.04.2004; Çakırköy 1030m. 21.04.2004; 1030m. 23.04.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Limnitis reducta* Staudinger, 1901

Afyonkarahisar: Şehitlik 1050m. 03.06.2003; İzmir: Kemalpaşa Sarıçalı 350m. 22.07.2003; 350m. 27.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula Sabuncu 750m. 27.08.2003; Kula İncesu 710m. 15.08.2004; Kula Bozdağlar, Kurşunlu 800m. 26.09.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Melitaea (Cinlidia) (phoebe) phoebe* (Goeze, 1779)

Afyonkarahisar: Şehitlik 1050m. 03.06.2003; Mttalip Location 1025m. 20.05.2004; A. N. S. Kampüsü 1020m. 17.06.2004.

*Melitaea (Didymaeformis) cinxia* (Linnaeus, 1758)

Afyonkarahisar A. N. S. Kampüsü 1020m. 17.06.2004.

*Melitaea (Didymaeformis) didyma* (Esper, [1779])

Afyonkarahisar: Sandıklı Akdağlar Sorkun Oktur plateau 1500m. 22.07.2003; Manisa Kula 670m. 16.08.2003; Kütahya Çamlıca 980m. 02.08.2004.

*Melitaea (Didymaeformis) fascelis* (Fabricius, 1787)

Afyonkarahisar: Şehitlik 1050m. 03.06.2003; A. N. S. Kampüsü 1020m. 17.06.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Polygona (Comma) c-album* (Linnaeus, 1758)

Afyonkarahisar: Sandıklı Akdağlar karanlık stream 1700m. 21.07.2003.

*Vanessa atalanta* (Linnaeus, 1758)

Afyonkarahisar: Erkmén 1050m. 04.06.2004; 1020m. 19.10.2004.

*Vanessa cardui* (Linnaeus, 1758)

Afyonkarahisar: Şehitlik 1050m. 03.06.2003; Hocalar Yalvaçlar 900m. 14.06.2003; Sandıklı Akdağlar 1700m. 21.07.2003; Mttalip Location 1025m. 20.05.2004; Şuhut, Yatağan mountain 1200m. 20.05.2004; Erkmén 1050m. 04.06.2004; İzmir: Kemalpaşa Sarıçalı 350m. 22.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula 670m. 25.07.2003; Kütahya Çamlıca 980m. 02.08.2004.

Family: **SATYRIDAE** Boisduval, 1833

*Brintesia circe* (Fabricius, 1755)

Afyonkarahisar: Mttalip Location 1025m. 25.06.2004.

*Chazara briseis* (Linnaeus, 1764)

Afyonkarahisar: Sandıklı Akdağlar karanlık stream 1700m. 21.07.2003; Sandıklı Akdağlar Sorkun Oktur plateau 1500m. 22.07.2003; Mttalip Location 1025m. 25.06.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Coenonympha pamphilus* (Linnaeus, 1758)

Afyonkarahisar: Çakırköy 1030m. 21.04.2004; Mttalip Location 1025m. 20.05.2004; Şuhut, Yatağan mountain 1200m. 20.05.2004; Erkmén 1050m. 04.06.2004; A. N. S. Kampüsü 1020m. 17.06.2004; İzmir: Kemalpaşa Sarıçalı 350m. 18.07.2003; 350m. 22.07.2003; 350m. 27.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula 670m. 25.07.2003; 670m. 16.08.2003; Kula Sabuncu 760m. 24.06.2004; Manisa Kula Yurtbaşı 600m. 27.06.2004; Manisa Kula İncesu 710m. 15.08.2004; Kula Bozdağlar, Kurşunlu 800m. 26.09.2004; Kütahya 950m. 17.07.2004.

*Hipparchia (Neohipparchia) fatua* (Freyer, 1844)

İzmir, Kemalpaşa Sarıçalı 350m. 22.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula 670m. 25.07.2003; Kütahya Çamlıca 980m. 02.08.2004.

*Hipparchia (Parahipparchia) aristaeus* (Bonelli, 1826)

Afyonkarahisar: Sandıklı Akdağlar karanlık stream 1700m. 21.07.2003; Sandıklı Akdağlar Sorkun Oktur plateau 1500m. 22.07.2003; Kütahya Çamlıca 980m. 02.08.2004.

*Hyponephele lupina* (Costa, [1836])

Afyonkarahisar: Sandıklı Akdağlar karanlık stream 1700m. 21.07.2003; Sandıklı Akdağlar Sorkun Oktur plateau 1500m. 22.07.2003; Mttalip Location 1025m. 25.06.2004; Manisa: Kula Sabuncu 760m. 24.06.2004.

*Hyponephele Iycaon* (Rottemburg, 1775)

Afyonkarahisar: Sandıklı Akdağlar karanlık stream 1700m. 21.07.2003; Manisa: Kula Çayır Location 650m. 24.06.2003.

*Krinia (Melike) roxelana* (Cramer, [1777])

Afyonkarahisar: Mttalip Location 1025m. 25.06.2004; Manisa: Kula Çayır Location 650m. 24.06.2003; Kula Sabuncu 760m. 24.06.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Lasiommata maera* (Linnaeus, 1758)

Afyonkarahisar: Hocalar Yalvaçlar 900m. 14.06.2003; Manisa: Kula 670m. 16.08.2003.

*Lasiommata megera* (Linnaeus, 1767)

İzmir: Kemalpaşa Sarıçalı 350m. 22.07.2003; Manisa: Kula Çayır Location 650m. 24.06.2003; Kula Sabuncu 760m. 24.06.2004.

*Maniola (Telmessiola) telmessia* (Zeller, 1847)

Afyonkarahisar: Hocalar Yalvaçlar 900m. 14.06.2003; Kütahya 950m. 17.07.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Maniola jurtina* (Linnaeus, 1758)

Afyonkarahisar: Hocalar Yalvaçlar 900m. 14.06.2003;

Manisa: Kula Bozdağlar, Kurşunlu 800m. 26.09.2004.

*Melanargia (Turcargia) larissa* (Geyer, [1828])

Afyonkarahisar: Sandıklı Akdağlar karanlık stream1700m. 21.07.2003; Sandıklı Akdağlar Sorkun Otkur plateau1500m. 22.07.2003; Mttalip Location1025m. 25.06.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Melanargia galathea* (Linnaeus, 1758)

Kütahya 950m. 17.07.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Pararge aegeria* (Linnaeus, 1758)

Manisa: Kula Alaşehir road 650m. 19.06.2004; Kula Bozdağlar, Kurşunlu 800m. 26.09.2004.

*Pseudochazara (Achazara) anthelea* (Hübner, [1824])

Afyonkarahisar: Sandıklı Akdağlar karanlık stream1700m. 21.07.2003.

*Pseudochazara lydia* (Staudinger, 1878)

Afyonkarahisar: Sandıklı Akdağlar Sorkun Otkur plateau1500m. 22.07.2003; Kütahya Çamlıca 980m. 02.08.2004.

*Pyronia tithonus* (Linnaeus, 1771)

Kütahya 950m. 17.07.2004.

Family: **LYCAENIDAE** Stephenes, 1829

*Callophrys rubi* (Linnaeus, 1758)

Afyonkarahisar: Çakırköy 1030m. 23.04.2004.

*Celastrina argiolus* (Linnaeus, 1758)

Afyonkarahisar Sandıklı Akdağlar karanlık stream1700m. 21.07.2003; İzmir, Kemalpaşa Sarıçalı 350m. 18.07.2003; İzmir, Kemalpaşa Sarıçalı 350m. 27.07.2003; İzmir, Kemalpaşa Hamza baba 360m. 04.08.2003; Manisa Kula Sabuncu 760m. 24.06.2004; Manisa Kula İncesu 710m. 15.08.2004.

*Cupido osiris* (Meigen, [1829])

Afyonkarahisar Erkmén 1050m. 04.06.2004.

*Glaucopsyche (Apelles) astraea* (Freyer, [1851])

Afyonkarahisar Mttalip Location 1025m. 20.05.2004.

*Lampides boeticus* (Linnaeus, 1767)

İzmir: Kemalpaşa Sarıçalı 350m. 18.07.2003; 350m. 22.07.2003; 350m. 27.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula 670m. 25.07.2003; Kula 670m. 16.08.2003; Kula İncesu 710m. 15.08.2004.

*Leptotes pirithous* (Linnaeus, 1767)

Manisa: Kula Bozdağlar, Kurşunlu 800m. 26.09.2004.

*Lycaena (Alciphronia) alciphron* (Rottemburg, 1775)

İzmir: Kemalpaşa Sarıçalı 350m. 18.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula Alaşehir road 650m. 19.06.2004; Kula İncesu 710m. 15.08.2004.

*Lycaena phlaeas* (Linnaeus, 1761)

Afyonkarahisar: Sandıklı Akdağlar Sorkun Otkur plateau1500m. 22.07.2003; Erkmén1050m. 04.06.2004; İzmir: Kemalpaşa Sarıçalı 350m. 18.07.2003; Manisa: Kula 670m. 16.08.2003; Kula İncesu 710m. 15.08.2004.

*Lycaena (Thersamonia) thersamon* (Esper, [1784])

İzmir: Kemalpaşa Sarıçalı 350m. 27.07.2003.

*Lycaena (Loweia) tityrus* (Poda, 1761)

Afyonkarahisar: Sandıklı Akdağlar Sorkun Otkur plateau1500m. 22.07.2003; Mttalip Location1025m.

20.05.2004; İzmir: Kemalpaşa Sarıçalı 350m. 22.07.2003; Hamza baba 360m. 04.08.2003; Manisa: Kula Sabuncu kuyu 750m. 27.08.2003.

*Plebejus (Plebejides) sephirus* (Frivaldsky, 1835)

Afyonkarahisar Mttalip Location 1025m. 25.06.2004.

*Plebejus argus* (Linnaeus, 1758)

İzmir, Kemalpaşa Sarıçalı 350m. 22.07.2003.

*Polyommatus (Aricia) anteros* (Freyer, [1838])

Afyonkarahisar Sandıklı Akdağlar karanlık stream1700m. 21.07.2003.

*Polyommatus (Aricia) agestis* ([Denis & Schiffermüller], 1775)

Afyonkarahisar Sandıklı Akdağlar karanlık stream1700m. 21.07.2003; Sandıklı Akdağlar Sorkun Otkur plateau1500m. 22.07.2003; Çakırköy1030m. 23.04.2004; Mttalip Location1025m. 20.05.2004; Şuhut, Yatağan mountain1200m. 20.05.2004; Manisa Kula 670m. 25.07.2003; Kula Alaşehir road650m. 19.06.2004; Kula Sabuncu 750m. 16.08.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Polyommatus (Admetusia) admetus* (Esper, [1783])

Kütahya Çamlıca 980m. 02.08.2004.

*Polyommatus (Admetusia) ripartii* (Freyer, [1830])

Kütahya Çamlıca 980m. 02.08.2004.

*Polyommatus (Agrodiaetus) hopfferi* (Gerhard, [1851])

Afyonkarahisar Sandıklı Akdağlar karanlık stream1700m. 21.07.2003; Kütahya Çamlıca 980m. 02.08.2004.

*Polyommatus (Agrodiaetus) iphigenia* (Herrich-Schäffer, [1847])

Afyonkarahisar Sandıklı Akdağlar karanlık stream1700m. 21.07.2003.

*Polyommatus (Lysandra) bellargus* (Rottemburg, 1775)

Afyonkarahisar Sandıklı Akdağlar Sorkun Otkur yaylası 1500m. 22.07.2003;

*Polyommatus (Lysandra) ossmar* (Gerhard, [1851])

Afyonkarahisar Sandıklı Akdağlar karanlık stream1700m. 21.07.2003.

*Polyommatus (Meleageria) dophnis* ([Denis & Schiffermüller], 1775)

Afyonkarahisar Sandıklı Akdağlar Sorkun Otkur yaylası 1500m. 22.07.2003; Kütahya Çamlıca 980m. 02.08.2004.

*Polyommatus (Sublysandra) cornelius* (Freyer, [1850])

Kütahya Çamlıca 980m. 02.08.2004.

*Polyommatus (Thersitesia) thersites* (Canterer, [1835])

Afyonkarahisar: Sandıklı Akdağlar Sorkun Otkur plateau 1500m. 22.07.2003; Şuhut, Yatağan mountain 1200m. 20.05.2004; İzmir: Kemalpaşa Sarıçalı 350m. 18.07.2003.

*Polyommatus icarus* Rottemburg, 1775

Afyonkarahisar: Sandıklı Akdağlar karanlık stream1700m. 21.07.2003; Sandıklı Akdağlar, Sorkun Otkur plateau1500m. 22.07.2003; Şuhut, Yatağan mountain1200m. 20.05.2004; Erkmén 1050m. 04.06.2004; A. N. S. Kampüsü1020m. 17.06.2004; Mttalip Location1025m. 25.06.2004; İzmir: Kemalpaşa Sarıçalı 350m.

18.07.2003; 350m. 27.07.2003; Manisa: Kula Yurtbaşı 600m. 16.05.2003; Kula Yakabağ Location 750m. 17.05.2003; Kula 670m. 25.07.2003; 670m. 16.08.2003; Sabuncu 750m. 27.08.2003; Kula Alaşehir road 650m. 19.06.2004; Kula Yurtbaşı 600m. 27.06.2004; Kula İncesu 710m. 15.08.2004; Kula Sabuncu 750m. 16.08.2004; Kütahya 950m. 17.07.2004; Kütahya Çamlıca 980m. 02.08.2004.

*Satyrium (Nordmannia) acaciae* (Fabricius 1787)

Manisa Kula Acısı 650m. 17.05.2003.

Superfamily: **HESPERIOIDEA** Latreille, 1809

Family: **HESPERIIDAE** Latreille, 1809

*Carcharodus alceae* (Esper, [1780])

Afyonkarahisar: Erkmén 1020m. 14.04.2004; İzmir: Kemalpaşa Sarıçalı 350m. 27.07.2003; Hamza baba 360m. 04.08.2003.

*Erynnis (Hesperopegasus) marloyi* (Boisduval, [1834])

İzmir: Kemalpaşa Sarıçalı 350m. 22.07.2003.

*Ochlodes venatus* (Bremer & Grey, [1852])

Afyonkarahisar: Sandıklı Akdağlar karanlık stream 1700m. 21. 07. 2003.

*Pyrgus melotis* (Duponchel, [1834])

İzmir: Kemalpaşa Sarıçalı 350m. 22.07.2003; İzmir: Kemalpaşa Hamza baba 360m. 04.08.2003.

*Spialia (Neaspialia) orbifer* (Hübner, [1823])

İzmir: Kemalpaşa Sarıçalı 350m. 22.07.2003; Manisa: Kula 670m. 16.08.2003.

*Spialia phlomidis* (Herrich-Schäffer, [1845])

Afyonkarahisar: Sandıklı Akdağlar karanlık stream 1700m. 21.07.2003.

*Thymelicus lineolus* (Ochsenheimer, 1808)

Afyonkarahisar: Sandıklı Akdağlar Sorkun Oktur plateau 1500m. 22.07.2003; Manisa: Kula Acısı 650m. 17.05.2003; Kütahya Çamlıca 980m. 02.08.2004.

*Thymelicus sylvestris* (Poda, 1761)

Afyonkarahisar: Sandıklı Akdağlar karanlık stream 1700m. 21.07.2003; Akdağlar Sorkun Oktur plateau 1500m. 22.07.2003; Mıtlıp Location 1025m. 25.06.2004; Kütahya Çamlıca 980m. 02.08.2004.

## 4. Discussion

Having different ecosystems provide richness in habitat types for animals and plants, which may increase the diversity of living organisms. For proper and efficient sampling, Lepidoptera species were collected in different localities possessing different vegetation types (agricultural crops to Pinus and Quercus forests) and altitudes 350 to 1700m. In this study it is clearly all these characteristics (locality, vegetation type, altitude and date) have an effect on distribution of living organisms, including butterflies.

Most of the species have been caught in the meadow and lowland because of the abundance of flowers and the variety of plants. Also most of the species obtained were collected in spring and summer months. Because summer and spring are the most suitable seasons for the growing

processes and regeneration activities of butterfly larva and adults.

*I. podalirius*; *C. crocea*; *P. brassicae*; *P. rapae*; *P. pseudorapae*; *P. edusa*; *L. reducta*; *V. cardui*; *C. pamphilus*; *C. argiolus*; *P. agestis* and *P. icarus* are the species were determined as widespread.

In this study 78 species belonging to 7 families from order Lepidoptera identified. These families and number of species are: Papilionidae (3); Pieridae (12); Libytheidae (1); Argynnis (11); Satyridae (18); Lycaenidae (25) and Hesperidae (8).

This study makes contribution to the Lepidoptera fauna of Afyonkarahisar, İzmir, Kütahya and Manisa in Aegean region from Turkey. Scientific and taxonomic studies about Aegean region are very limited in number. New studies considering insect orders should be carried out before agricultural and forest ecosystems are destroyed. On the other hand, the continuing illegal use of forests and incorrect land use practices threaten to destroy the diversity in Aegean region. Therefore, detailed studies should be carried out as quickly as possible to determine the biological diversity of Taurus.

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