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Author(s): Yusuf Hüseyinoğlu

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## A Faunistic Study of Papilionoidea (Lepidoptera) of the Western Taurus Mountains, Turkey

YUSUF HÜSEYİNOĞLU

Department of Biology, Faculty of Science and Letters, Mersin University,  
33343 Mersin, Turkey  
e-mail: yusez03@gmail.com

**ABSTRACT:** In this study, the fauna of Papilionoidea (Lepidoptera) (sensu van Nieukerken *et al.*, 2011) in West Taurus (Southern Turkey) has been investigated. Field studies were carried out during the years 2004–2009. Specimens of butterflies were collected from 43 different localities for this study. These specimens belong to 125 species distributed in 5 families. The distribution of species (by families) was given as: Papilionidae (5); Pieridae (14); Nymphalidae (45); Lycaenidae (44) and Hesperiidae (17). A review of the relevant literature revealed that 92 of 125 species determined in this study are newly recorded for the Lepidoptera fauna of Anamur and all of them are new for the study area.

**KEY WORDS:** Anamur, Bozyazi, Fauna, Lepidoptera, Toroslar, Turkey

The study area is located in the Mediterranean region of Mersin province (Southern Turkey). The Taurus Mountains (Toros Dağları) are of significant research interest because of the different ecosystem types in both forests and agricultural lands.

Although Lepidoptera is one of the largest orders of insects in species richness, studies carried out in Turkey to determine the fauna and distribution of Lepidoptera are yet to be completed. There are many published studies of the Lepidoptera fauna in Turkey (Atay and Yolcu, 2012; Can, 2008; Hüseyinoğlu, 2000, 2013; Hüseyinoğlu and Akyol, 2013; Kaygin *et al.*, 2009; Koçak and Seven, 1994, 1995; Koçak and Kemal, 2008, 2009, 2012; Okyar and Aktaç, 1998). According to Karaçetin and Welch (2011) a total of 380 butterfly species distributed in 5 families have been recorded in Turkey. However researchers have found only 33 species in Anamur to date (Hesselbarth *et al.*, 1995). These records are mainly from Anemurium, Mamure Castle and the Mediterranean coast region (Hesselbarth *et al.*, 1995). These species are: *Papilio machaon*; *Zerynthia cerisyi*; *Colias crocea*; *Gonepteryx farinose*; *Euchloe ausonia*; *Aporia crataegi*; *Pontia chloridice*; *P. edusa*; *Pieris rapae*; *P. brassicae*; *Melitaea fascelis*; *Vanessa cardui*; *V. atalanta*; *Thaleropsis ionia*; *Satyrus ferula*; *Maniola titea*; *M. telmessia*; *Ypthima asterope*; *Lasiommata maera*; *Pararge aegeria*; *Kirinia roxelana*; *Polyommatus icarus*; *P. semiargus*; *P. agestis*; *Glaucopsyche alexis*; *Pseudophilotes vicrama*; *Celastrina argiolus*; *Zizeeria karsandra*; *Tarucus balkanicus*; *Lycaena thersamon*; *L. otomana*; *L. phlaeas* and *Muschampia proto* (Hesselbarth *et al.*, 1995).

The objectives of this study were to investigate the butterfly fauna of the West Taurus Mountains (Toroslar) in Mersin province and to contribute to the knowledge of the Lepidoptera species and their distribution in Turkey.

### Materials and Methods

This study was conducted during 2004 and 2009 in Anamur and Bozyazi (Toroslar) to determine the diurnal Lepidoptera fauna in the area. The plateaus of

Table 1. Geographic information about field study localities in the West Taurus Mountains (Toroslar).

| Number<br>(in Table 2) | Locality                         | Altitude   | Date of collection |
|------------------------|----------------------------------|------------|--------------------|
| 1.                     | Anamur: Kaşdıştan, Alaköprü N.   | 200 m.     | 16 Oct 2004        |
| 2.                     | Anamur: Kuruağaç Location        | 800 m.     | 16 Apr 2005        |
| 3.                     | Anamur: Kaşdıştan, Alaköprü      | 50 m.      | 17 Apr 2005        |
| 4.                     | Anamur: Kaşdıştan, Alaköprü N.   | 100-300 m. | 01 May 2005        |
| 5.                     | Anamur: Kaş Plateau, Pınarlar    | 300-400 m. | 16 May 2005        |
| 6.                     | Anamur: Kaşdıştan, Alaköprü N.   | 100 m.     | 11 Jun 2005        |
| 7.                     | Anamur: Kaşdıştan, Çeşme         | 300 m.     | 11 Jun 2005        |
| 8.                     | Anamur: Kaş Plateau, Pınarlar    | 400 m.     | 11 Jun 2005        |
| 9.                     | Anamur: Kuruağaç Location        | 700 m.     | 11 Jun 2005        |
| 10.                    | Anamur: Kaş Plateau              | 1300 m.    | 11 Jun 2005        |
| 11.                    | Anamur: Akpınar, Halkalı S.      | 1350 m.    | 12 Jun 2005        |
| 12.                    | Anamur: Akpınar Plateau, Halkalı | 1350 m.    | 12 Jun 2005        |
| 13.                    | Anamur: Kaş Plateau              | 1350 m.    | 12 Jun 2005        |
| 14.                    | Anamur: Abanoz, Cedrus location  | 1350 m.    | 12 Jun 2005        |
| 15.                    | Anamur: Akpınar Plateau          | 1500 m.    | 12 Jun 2005        |
| 16.                    | Anamur: Kaşdıştan, Evciler       | 250 m.     | 25 Jun 2005        |
| 17.                    | Anamur: Kaş Plateau              | 1300 m.    | 25 Jun 2005        |
| 18.                    | Anamur: Akpınar Plateau, Halkalı | 1350 m.    | 25 Jun 2005        |
| 19.                    | Anamur: Kaş Plateau, Pınarlar    | 400 m.     | 26 Jun 2005        |
| 20.                    | Anamur: Kaş Plateau              | 1300 m.    | 26 Jun 2005        |
| 21.                    | Anamur: Abanoz, Suolmaz pass     | 1690 m.    | 26 Jun 2005        |
| 22.                    | Anamur: Abanoz, Cedrus location  | 1500 m.    | 28 May 2006        |
| 23.                    | Anamur: Kaş Plateau, Ortaseki    | 600 m.     | 02 Jun 2006        |
| 24.                    | Anamur: Kaş Plateau              | 950 m.     | 02 Jun 2006        |
| 25.                    | Anamur: Abanoz Plateau, Halkalı  | 1300 m.    | 02 Jun 2006        |
| 26.                    | Anamur: Kaş Plateau              | 1300 m.    | 25 Jun 2006        |
| 27.                    | Anamur: Kaşdıştan                | 400-600 m. | 11 Jul 2006        |
| 28.                    | Anamur: Abanoz Plateau           | 1500 m.    | 11 Jul 2006        |
| 29.                    | Anamur: Abanoz, Çukurabanoz      | 1600 m.    | 11 Jul 2006        |
| 30.                    | Anamur: Abanoz, Suolmaz pass     | 1650 m.    | 11 Jul 2006        |
| 31.                    | Anamur: Abanoz, Cedrus location  | 1350 m.    | 19 Jul 2006        |
| 32.                    | Anamur: Abanoz Plateau           | 1350 m.    | 19 Jul 2006        |
| 33.                    | Anamur: Abanoz Plateau, Halkalı  | 1400 m.    | 19 Jul 2006        |
| 34.                    | Anamur: Akpınar Plateau          | 1500 m.    | 19 Jul 2006        |
| 35.                    | Anamur: Abanoz, Suolmaz pass     | 1600 m.    | 19 Jul 2006        |
| 36.                    | Anamur: Abanoz, Çukurabanoz      | 1600 m.    | 10 Aug 2006        |
| 37.                    | Anamur: Abanoz, Cedrus location  | 1350 m.    | 11 Aug 2006        |
| 38.                    | Bozyazı: Dereköy                 | 1050 m.    | 30 Jul 2008        |
| 39.                    | Bozyazı: Ardiç Plateau           | 1200 m.    | 30 Jul 2008        |
| 40.                    | Anamur: Kaysan Plateau, Beşoluk  | 1500 m.    | 27 Jul 2009        |
| 41.                    | Anamur: Akpınar, Çadırağaç       | 1600 m.    | 27 Jul 2009        |
| 42.                    | Anamur: Akpınar, Beşoluk         | 1600 m.    | 30 Aug 2008        |
| 43.                    | Anamur: Akpınar, Kaysan Plateau  | 1600 m.    | 30 Aug 2008        |

Kaş, Abanoz, Halkalı, Akpınar, Kaysan and Ardiç are located in Western Taurus. The specimens collected from the study area were taken from 43 stations, each with different localities and habitat types between altitudes 50 and 1690 m. These stations (identified by Locality number) are listed chronologically in Table 1. The field studies were carried out during April to October (from 2004 to 2009). Specimens were collected using a sweep net. Collected specimens were placed in

killing jars with ethyl acetate. The collection date, name of the locality and altitude were noted on an envelope for every specimen collected. Each specimen was then put into the envelope and all materials were subsequently brought to the laboratory for preparation and identification. Butterfly specimens were pinned with wings spread, dried and put into collection boxes. All of the materials were deposited in the Entomological Research Laboratory of the Department of Biology, Mersin University. Identifications were based on the publications of (Hesselbarth *et al.*, 1995), (Hofmann and Marktanner, 1995), (Tolman and Lewington, 1997), and the author's reference collections.

### Results

A total of 125 species belonging to five families and two superfamilies of the order Lepidoptera were identified. The families and number of species in each family are as follows: Papilionidae (5), Pieridae (14), Nymphalidae (45), Lycaenidae (44) and Hesperidae (17). The highest number of species belonged to Nymphalidae (45, 36%) followed by Lycaenidae (44, 35.2%), Hesperidae (17, 13.6%), Pieridae (14, 11.2%) and Papilionidae (5, 4%).

The butterflies species collected in West Taurus are listed in Table 2 together with numbers identifying the localities in which they were collected (Table 1).

The list of species, according to (Hesselbarth *et al.*, 1995); (Koçak and Kemal, 2009); (Wahlberg *et al.*, 2009); (Heikkilä *et al.*, 2012) has been arranged using the higher level classification of van Nieukerken *et al.*, 2011, as follows.

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

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

*Ipheclides podalirius* (Linnaeus, 1758)

*Papilio (Alexanoria) alexanor* Esper, [1800]

*Papilio machaon* Linnaeus, 1758

*Parnassius (Driopa) mnemosyne* (Linnaeus, 1758)

*Zerynthia (Allancastris) cerisyi* (Godart, 1822)

Family: **HESPERIIDAE** Latreille, 1809

*Carcharodus (Lavatheria) lavatherae* (Esper, [1783])

*Carcharodus (Lavatheria) stauderi* Reverdin, 1913

*Carcharodus (Reverdinus) orientalis* Reverdin, 1913

*Carcharodus alceae* (Esper, [1780])

*Gegenes pumilio* (Hoffmannsegg, 1804)

*Hesperia comma* (Linnaeus, 1758)

*Muschampia nomas* (Lederer, 1855)

*Muschampia poggei* (Lederer, 1858)

*Muschampia proteides* (Wagner, 1929)

*Muschampia proto* (Ochsenheimer, 1808)

*Pyrgus melotis* (Duponchel, [1834])

*Pyrgus serratulae* (Rambur, [1839])

*Pyrgus sidae* (Esper, [1784])

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

*Thymelicus hyrax* (Lederer, 1861)

Table 2. Identified species and collection localities (from Table 1) in the Taurus Mountains.

| Species                       | Locality numbers where collected                                   |
|-------------------------------|--------------------------------------------------------------------|
| <i>Anthocharis cardamines</i> | 3, 5                                                               |
| <i>Aporia crataegi</i>        | 14, 22, 25                                                         |
| <i>Argynnis adippe</i>        | 28, 38, 40                                                         |
| <i>Argynnis niobe</i>         | 11, 14, 15, 17, 20, 21, 22                                         |
| <i>Argynnis pandora</i>       | 1, 7, 11, 23, 24, 25, 27, 29, 35, 39, 40, 41, 42, 43               |
| <i>Argynnis paphia</i>        | 38                                                                 |
| <i>Brenthis daphne</i>        | 38, 40                                                             |
| <i>Brenthis hecate</i>        | 11, 14, 15, 22                                                     |
| <i>Brintesia circe</i>        | 40, 41, 42                                                         |
| <i>Callophrys rubi</i>        | 2                                                                  |
| <i>Carcharodus alceae</i>     | 1, 4, 5, 6, 8, 9, 15, 27, 28                                       |
| <i>Carcharodus lavatherae</i> | 41                                                                 |
| <i>Carcharodus orientalis</i> | 11, 16, 17                                                         |
| <i>Carcharodus stauderi</i>   | 1, 30, 36                                                          |
| <i>Celastrina argiolus</i>    | 17, 23, 27, 30, 38, 41                                             |
| <i>Chazara briseis</i>        | 28, 33, 34, 36, 37, 38, 40, 42                                     |
| <i>Chilades galba</i>         | 28, 31, 32, 35, 36                                                 |
| <i>Coenonympha pamphilus</i>  | 3, 11, 22, 25, 27, 28, 31, 32, 33, 36, 38, 39, 40, 41, 43          |
| <i>Colias alfajariensis</i>   | 4, 11, 41, 43                                                      |
| <i>Colias crocea</i>          | 4, 5, 6, 9, 11, 13, 14, 16, 17, 21, 23, 30, 33, 34, 35, 36, 39, 41 |
| <i>Cupido minimus</i>         | 14                                                                 |
| <i>Cupido osiris</i>          | 11, 15                                                             |
| <i>Euchloe ausonia</i>        | 4, 15                                                              |
| <i>Gegenes pumilio</i>        | 1, 4, 6                                                            |
| <i>Glaucopsyche alexis</i>    | 2, 4, 5, 11, 22                                                    |
| <i>Glaucopsyche astraea</i>   | 17                                                                 |
| <i>Glaucopsyche lessei</i>    | 10, 11, 14, 15, 17, 25                                             |
| <i>Gonepteryx farinosa</i>    | 6, 9, 17, 19, 20, 22, 23, 24, 25, 28, 30, 31, 41                   |
| <i>Gonepteryx rhamni</i>      | 6, 23, 24, 30, 37, 43                                              |
| <i>Hesperia comma</i>         | 42, 43                                                             |
| <i>Hipparchia aristaeus</i>   | 39, 40, 43                                                         |
| <i>Hipparchia fatua</i>       | 16, 27, 35, 36, 39, 42                                             |
| <i>Hipparchia mersina</i>     | 4, 17, 39                                                          |
| <i>Hipparchia pellucida</i>   | 39                                                                 |
| <i>Hipparchia syriaca</i>     | 1, 8, 24, 39, 42                                                   |
| <i>Hyponephele Iycaon</i>     | 28, 30, 35, 36, 39, 40, 41                                         |
| <i>Hyponephele lupina</i>     | 11, 15, 20, 28, 31, 33, 35, 37, 40, 41                             |
| <i>Hyponephele wagnerii</i>   | 30, 35, 36                                                         |
| <i>Iphiclides podalirius</i>  | 6, 7, 22, 31, 39                                                   |
| <i>Issoria lathonia</i>       | 11, 15, 21, 22, 39, 40, 42                                         |
| <i>Kirinia roxelana</i>       | 4, 23, 27                                                          |
| <i>Lampides boeticus</i>      | 3, 4, 5, 6, 8, 17, 23, 34, 41                                      |
| <i>Lasiommata maera</i>       | 5, 8, 10, 25, 27, 38                                               |
| <i>Lasiommata megera</i>      | 1, 6, 22, 38, 41, 43                                               |
| <i>Leptidea duponcheli</i>    | 2                                                                  |
| <i>Leptidea sinapis</i>       | 2, 5, 7, 9                                                         |
| <i>Leptotes pirithous</i>     | 1, 3, 4, 5, 6, 7, 9, 11, 14, 15, 18, 19, 20, 21, 22, 25, 35        |
| <i>Libythea celtis</i>        | 39, 41                                                             |
| <i>Limenitis reducta</i>      | 8, 13, 14, 17, 20, 22, 25, 27, 28, 31, 33, 37, 38, 39, 40, 41, 42  |
| <i>Lycaena asabinus</i>       | 36, 41                                                             |
| <i>Lycaena keferistini</i>    | 36                                                                 |
| <i>Lycaena phlaeas</i>        | 1, 3, 4, 5, 6, 21, 24, 28, 29, 35, 36, 37, 38                      |
| <i>Lycaena thersamon</i>      | 1, 6, 11, 15, 17, 28, 30, 36, 37, 39, 41, 43                       |

Table 2. Continued.

| Species                         | Locality numbers where collected                                                                           |
|---------------------------------|------------------------------------------------------------------------------------------------------------|
| <i>Lycaena thetis</i>           | 36, 40, 41                                                                                                 |
| <i>Lycaena virgaureae</i>       | 12                                                                                                         |
| <i>Maniola jurtina</i>          | 1, 3, 4, 5, 24,                                                                                            |
| <i>Maniola megala</i>           | 24                                                                                                         |
| <i>Maniola telmessia</i>        | 1, 3, 4, 5, 24                                                                                             |
| <i>Melanargia larissa</i>       | 10, 11, 13, 17, 18, 20, 21, 24, 29, 30, 31, 34, 35, 36, 40, 41                                             |
| <i>Melitaea cinxia</i>          | 22                                                                                                         |
| <i>Melitaea collina</i>         | 6, 8, 14, 21                                                                                               |
| <i>Melitaea didyma</i>          | 11, 14, 15, 22, 23, 25, 28, 31, 40, 41, 43                                                                 |
| <i>Melitaea fascelis</i>        | 1, 3, 4, 5, 6, 7, 8, 9, 11, 14, 15, 18, 19, 20, 21, 22, 25, 35                                             |
| <i>Melitaea phoebe</i>          | 10, 11, 15, 17, 20, 22, 24                                                                                 |
| <i>Melitaea punica</i>          | 14                                                                                                         |
| <i>Muschampia nomas</i>         | 4, 8, 11, 16                                                                                               |
| <i>Muschampia poggei</i>        | 30                                                                                                         |
| <i>Muschampia portoides</i>     | 38, 42, 43                                                                                                 |
| <i>Muschampia prorto</i>        | 1, 8                                                                                                       |
| <i>Papilio alexanor</i>         | 23                                                                                                         |
| <i>Papilio machaon</i>          | 8, 16, 27                                                                                                  |
| <i>Pararge aegeria</i>          | 1, 3, 5, 7, 38,                                                                                            |
| <i>Parnassius mnemosyne</i>     | 21, 22, 25                                                                                                 |
| <i>Pieris brassicae</i>         | 1, 4, 5, 9, 15, 19, 24, 27, 28, 29, 30, 31, 34, 35, 38, 39, 40, 41                                         |
| <i>Pieris ergane</i>            | 38,                                                                                                        |
| <i>Pieris pseudorapae</i>       | 1, 4, 6, 7, 11, 17, 30,                                                                                    |
| <i>Pieris rapae</i>             | 1, 4, 5, 6, 7, 9, 11, 17, 19, 20, 23, 25, 29                                                               |
| <i>Plebejus argus</i>           | 14, 15, 41                                                                                                 |
| <i>Plebejus carmon</i>          | 11, 14, 17, 18, 21, 25, 29, 41                                                                             |
| <i>Plebejus sephirus</i>        | 11, 14, 18, 21, 22, 28, 33, 41                                                                             |
| <i>Polygonia c-album</i>        | 38, 41, 43                                                                                                 |
| <i>Polygonia egea</i>           | 38                                                                                                         |
| <i>Polyommatus admetus</i>      | 11, 33                                                                                                     |
| <i>Polyommatus agestis</i>      | 1, 6, 8, 13, 14, 17, 23, 28, 30, 31, 35, 37, 38, 42, 43                                                    |
| <i>Polyommatus amandus</i>      | 11, 14, 22, 25                                                                                             |
| <i>Polyommatus bellargus</i>    | 11, 31, 35, 37, 38, 43                                                                                     |
| <i>Polyommatus coelestinus</i>  | 11, 14, 15                                                                                                 |
| <i>Polyommatus cornelius</i>    | 11, 14, 17, 18, 28, 29, 30, 31, 33, 34, 35, 38, 41                                                         |
| <i>Polyommatus daphnis</i>      | 28, 29, 30, 31, 33, 34, 35, 36, 37, 40, 41, 42                                                             |
| <i>Polyommatus icarus</i>       | 1, 3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 17, 20, 22, 23, 28, 31, 33, 34, 35,<br>36, 37, 38, 39, 41, 42, 43 |
| <i>Polyommatus loewii</i>       | 11, 21, 22, 41                                                                                             |
| <i>Polyommatus menalcas</i>     | 28, 31, 40, 41, 42, 43                                                                                     |
| <i>Polyommatus ossmar</i>       | 33                                                                                                         |
| <i>Polyommatus ripartii</i>     | 40                                                                                                         |
| <i>Polyommatus thersites</i>    | 11, 12, 13, 18, 33, 37, 43                                                                                 |
| <i>Pontia edusa</i>             | 1, 4, 6, 9, 13, 15, 17, 19, 20, 23, 36, 37, 41, 43                                                         |
| <i>Pseudochazara anthelea</i>   | 10, 15, 17, 18, 25, 28, 31, 33, 35, 36, 40, 42                                                             |
| <i>Pseudochazara lydia</i>      | 28, 31, 33, 34, 39, 40, 41, 42                                                                             |
| <i>Pseudochazara mniszechii</i> | 21, 33, 34, 35, 40, 41, 42                                                                                 |
| <i>Pseudophilotes vicrama</i>   | 11                                                                                                         |
| <i>Pyrgus melotis</i>           | 13, 14, 42                                                                                                 |
| <i>Pyrgus serratulae</i>        | 10, 11                                                                                                     |
| <i>Pyrgus sidae</i>             | 11                                                                                                         |
| <i>Rubrapterus bavius</i>       | 11                                                                                                         |
| <i>Satyrium abdominalis</i>     | 11, 19                                                                                                     |

Table 2. Continued.

| Species                      | Locality numbers where collected                |
|------------------------------|-------------------------------------------------|
| <i>Satyrium acaciae</i>      | 13, 17, 20, 23                                  |
| <i>Satyrium ilicis</i>       | 6, 8, 9, 10, 11, 13, 15, 17, 19, 20, 23, 24, 28 |
| <i>Satyrium spini</i>        | 7, 8, 9, 10, 11, 13, 17, 21, 23, 24, 33, 34     |
| <i>Satyryus favonius</i>     | 33, 36, 40, 41                                  |
| <i>Satyryus ferulus</i>      | 21, 30, 35, 36                                  |
| <i>Spialia orbifer</i>       | 5, 6, 11, 13, 15, 38                            |
| <i>Tarucus balkanicus</i>    | 4, 6, 16, 27                                    |
| <i>Thaleropsis ionia</i>     | 5                                               |
| <i>Thymelicus hyrax</i>      | 13, 23                                          |
| <i>Thymelicus lineolus</i>   | 7, 8, 9, 11, 13, 17, 18, 23, 24                 |
| <i>Thymelicus sylvestris</i> | 9, 10, 15, 23, 38                               |
| <i>Turanana endymion</i>     | 33                                              |
| <i>Vanessa atalanta</i>      | 5, 17, 43                                       |
| <i>Vanessa cardui</i>        | 1, 4, 5, 22, 25, 40                             |
| <i>Ypthima asterope</i>      | 1, 4, 5, 8, 27                                  |
| <i>Zerynthia cerisyi</i>     | 2, 5, 13, 15, 25                                |
| <i>Zizeeria karsandra</i>    | 1                                               |

*Thymelicus lineolus* (Ochsenheimer, 1808)

*Thymelicus sylvestris* (Poda, 1761)

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

*Anthocharis cardamines* (Linnaeus, 1758)

*Aporia crataegi* (Linnaeus, 1758)

*Colias crocea* (Fourcroy, 1785)

*Colias alfacariensis* Ribber, 1905

*Euchloe ausonia* (Hübner, [1804])

*Gonepteryx farinosa* (Zeller, 1847)

*Gonepteryx rhamni* (Linnaeus, 1758)

*Leptidea duponcheli* (Staudinger, 1871)

*Leptidea sinapis* (Linnaeus, 1758)

*Pieris brassicae* (Linnaeus, 1758)

*Pieris (Artogeia) ergane* (Geyer, [1828])

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

*Pieris (Artogeia) pseudorapae* Verity, 1908

*Pontia edusa* (Fabricius, 1777)

Family: **LYCAENIDAE** Stephenes, 1829

*Callophrys rubi* (Linnaeus, 1758)

*Celastrina argiolus* (Linnaeus, 1758)

*Chilades (Lachides) galba* (Lederer, 1855)

*Cupido osiris* (Meigen, [1829])

*Cupido minimus* (Fuessly, 1775)

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

*Glaucopsyche alexis* (Poda, 1761)

*Glaucopsyche (Iolana) lessei* Bernardi, 1964

*Lampides boeticus* (Linnaeus, 1767)

*Leptotes pirithous* (Linnaeus, 1767)  
*Lycaena (Heodes) virgaureae* (Linnaeus, 1758)  
*Lycaena (Thersamonia) asabinus* (Gerhard, [1850])  
*Lycaena (Thersamonia) kefersteinii* (Gerhard, [1850])  
*Lycaena (Thersamonia) thersamon* (Esper, [1784])  
*Lycaena (Thersamonia) thetis* (Klug, 1834)  
*Lycaena phlaeas* (Linnaeus, 1761)  
*Plebejus (Kretania) carmon* (Gerhard, [1851])  
*Plebejus (Lycaeides) idas* (Linnaeus 1761)  
*Plebejus (Plebejides) sephirus* (Frivaldzky, 1835)  
*Plebejus argus* (Linnaeus, 1758)  
*Polyommatus (Albulina) loewii* (Zeller, 1847)  
*Polyommatus (Aricia) agestis* ([Denis & Schiffermüller], 1775)  
*Polyommatus (Admetusia) admetus* (Esper, [1783])  
*Polyommatus (Admetusia) ripartii* (Freyer, [1830])  
*Polyommatus (Agrodiaetus) menalcas* (Freyer, [1837])  
*Polyommatus (Lysandra) bellargus* (Rottemburg, 1775)  
*Polyommatus (Lysandra) ossmar* (Gerhard, [1851])  
*Polyommatus (Meleageria) dophnis* ([Denis & Schiffermüller], 1775)  
*Polyommatus (Neolysandra) coelestinus* (Eversmann, 1843)  
*Polyommatus (Plebicula) amandus* (Schneider, 1792)  
*Polyommatus (Sublysandra) cornelius* (Freyer, [1850])  
*Polyommatus (Thersitesia) thersites* (Canterer, [1835])  
*Polyommatus icarus* Rottemburg, 1775  
*Pseudophilotes vicrama* (Moore, 1865)  
*Rubrapterus bavius* (Eversmann, 1832)  
*Satyrrium (Nordmannia) abdominalis* (Gerhard, [1850])  
*Satyrrium (Nordmannia) acaciae* (Fabricius 1787)  
*Satyrrium (Nordmannia) ilicis* (Esper, [1779])  
*Satyrrium (Strymonidia) spini* (Fabricius 1787)  
*Tarucus balkanicus* (Freyer, [1843])  
*Turanana endymion* (Freyer, [1850])  
*Zizeeria karsandra* (Moore, 1865)

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*Libythea celtis* (Laicharting, 1782)  
*Argynnis (Fabriciana) adippe* (Rottemburg, 1775)  
*Argynnis (Fabriciana) niobe* (Linnaeus, 1758)  
*Argynnis (Pandoriana) pandora* ([Denis & Schiffermüller], 1775)  
*Argynnis paphia* (Linnaeus, 1758)  
*Brenthis daphne* (Bergstrasser, 1780)  
*Brenthis hecata* ([Denis & Schiffermüller], 1775)  
*Issoria lathonia* (Linnaeus, 1758)  
*Limenitis reducta* Staudinger, 1901  
*Melitaea (Cinclidia) (phoebe) phoebe* (Goeze, 1779)  
*Melitaea (Cinclidia) (phoebe) punica* Oberthür, 1876  
*Melitaea (Cinclidia) collina* Lederer, 1861  
*Melitaea (Didymaeformis) cinxia* (Linnaeus, 1758)

*Melitaea (Didymaeformis) didyma* (Esper, [1779])  
*Melitaea (Didymaeformis) fascelis* (Fabricius, 1787)  
*Polygonia (Comma) c-album* (Linnaeus, 1758)  
*Polygonia (Comma) egea* (Cramer, [1775])  
*Thaleropsis ionia* (Eversmann, 1851)  
*Vanessa atalanta* (Linnaeus, 1758)  
*Vanessa cardui* (Linnaeus, 1758)  
*Brintesia circe* (Fabricius, 1755)  
*Chazara briseis* (Linnaeus, 1764)  
*Coenonympha pamphilus* (Linnaeus, 1758)  
*Hipparchia (Neohipparchia) fatua* (Freyer, 1844)  
*Hipparchia (Parahipparchia) aristaeus* (Bonelli, 1826)  
*Hipparchia (Parahipparchia) mersina* (Staudinger, 1871)  
*Hipparchia (Parahipparchia) pellucida* (Stauder, 1924)  
*Hipparchia syriaca* (Staudinger, 1871)  
*Hyponephele (Turaninephele) wagneri* (Herrich-Schäffer, [1846])  
*Hyponephele lupina* (Costa, [1836])  
*Hyponephele Iycaon* (Rottemburg, 1775)  
*Krinia (Melike) roxelana* (Cramer, [1777])  
*Lasiommata maera* (Linnaeus, 1758)  
*Lasiommata megera* (Linnaeus, 1767)  
*Maniola (Telmessiola) telmessia* (Zeller, 1847)  
*Maniola jurtina* (Linnaeus, 1758)  
*Maniola megala* (Oberthür, 1909)  
*Melanargia (Turcargia) larissa* (Geyer, [1828])  
*Pararge aegeria* (Linnaeus, 1758)  
*Pseudochazara (Achazara) anthelea* (Hübner, [1824])  
*Pseudochazara lydia* (Staudinger, 1878)  
*Pseudochazara mnischevii* (Herrich-Schäffer, [1851])  
*Satyrus (Asatyrus) ferulus* (Fabricius, 1793)  
*Satyrus favonius* (Staudinger, [1892])  
*Ypthima asterope* (Klug, 1832)

### Discussion

This is the first study of the Lepidoptera fauna in West Taurus (Mersin province). The different ecosystems of the West Taurus provide richness in habitat types for animals and plants, which one would expect to increase the diversity of living organisms. On the other hand, the continuing illegal use of forests and incorrect land use practices endanger the biodiversity of the Taurus Mountains (Toroslar). Therefore, detailed studies should be carried out as quickly as possible to document the current biological diversity of Taurus.

For proper and efficient sampling, butterfly species were collected in different localities possessing different vegetation types (agricultural crops to Pinus, Quercus and Cedrus forests) and from altitudes 50 to 1690 m, all characteristics that affect biological distribution of lepidoptera.

All of the species which were identified in this study are first records for the Lepidoptera fauna of the study area in West Taurus (Toroslar) and 92 of them are first records for Anamur.

This study has contributed to the knowledge of the Lepidoptera fauna of Anamur and Bozyazı in the Mediterranean region (Mersin province). Scientific and taxonomic studies of the West Taurus are very limited in number. Other orders of insects should also be surveyed before these diverse agricultural and forest ecosystems are further degraded.

### Literature Cited

- Atay, E., and S. Yolcu. 2012. Butterfly fauna of the province of Hatay, Turkey and major taxonomic characters of *Polyommatus bollandi* Dumont, 1998 (Lycaenidae). *Pakistan Journal of Zoology* 44:893–896.
- Can, F. 2008. The Geometrid Moths (Lepidoptera) from the Middle and Eastern Black Sea Regions of Turkey. *Turkish Journal of Zoology* 32:351–358.
- Heikkilä, M., L. Kaila, M. Mutanen, C. Pena, and N. Wahlberg. 2012. Cretaceous origin and repeated tertiary diversification of the redefined butterflies. *Proc. R. Soc. B.* 279:1093–1099.
- Hesselbarth, G., H. Van Oorschot, and S. Wagener. 1995. *Die Tagfalter der Türkei*. 3band. Selbstverlag Sigbert Wagener Hemdener Weg 19, D 46399 Bocholt, Germany. 1354+847 pp.
- Hofmann, H., and T. Marktanner. 1995. *Butterflies and Moths of Britain & Europe*. Collins Nature Guides; Harpur Collins Publishers, London. 158 pp.
- Hüseyinoğlu, Y. 2000. Sincanlı (Afyon) *Papilionoidea* ve *Hesperioidea* Faunası Üzerine Araştırmalar. *Miscellaneous Papers* 60:1–8.
- Hüseyinoğlu, Y. 2013. A faunistic and ecological study on *Ppilionoidea* and *Hesperioidea* (Lepidoptera) of Sultandağları Mountains (Afyonkarahisar/Turkey). *African Journal of Agricultural Research* 8(16):1384–1394.
- Hüseyinoğlu, Y. 2013. Lepidoptera fauna in Aegaen region of Turkey. *Science Publishing Group, Animal and Veterinary Science* 1(1):1–6.
- Hüseyinoğlu, Y. 2013. Faunistic study on Lepidoptera from different regions of Anatolia, Turkey. *Science Publishing Group, Animal and Veterinary Science* 1(2):7–11.
- Hüseyinoğlu, Y. 2013. A faunistic study on *Papilionoidea* and *Hesperioidea* (Lepidoptera) of Murat Mountain in Banaz, Uşak province, Turkey. *Pakistan Journal of Zoology* 45(2):437–445.
- Hüseyinoğlu, Y. 2013. Faunistic study on *Papilionoidea* and *Hesperioidea* (Lepidoptera) of Göksu valley in Mut, Southern Turkey. *Pakistan Journal of Zoology* 45(5):1291–1297.
- Hüseyinoğlu, Y., and M. Akyol. 2013. Lepidoptera fauna in Akdağmadeni region of Yozgat, Turkey. *Journal of Entomology and Nematology* 5(1):10–18.
- Karaçetin, E., and H. J. Welch. 2011. *Türkiye'deki Kelebeklerin Kırmızı Kitabı*. Doğa Koruma Merkezi, Ankara, Turkey. 124 pp.
- Kaygın, A. T., Y. Yıldız, and M. Avcı. 2009. Lepidoptera fauna in Bartın Province, in western black sea region of Turkey. *African Journal of Agricultural Research* 4(9):815–822.
- Koçak, A. Ö., and M. Kemal. 2008. Checklist of the Diurnal Lepidoptera of Turkey. *Priamus Supplement* 15:1–42.
- Koçak, A. Ö., and M. Kemal. 2009. Revised Checklist of the *Lepidoptera* of Turkey. *Priamus Supplement* 17:1–253.
- Koçak, A. Ö., and M. Kmal. 2012. List of the Hitherto recorded Pterygot taxa of Turkey (Insecta), *Memoris* 6.
- Koçak, A. Ö., and S. Seven. 1994. Türkiye *Lepidoptera* Bibliyografyası. *Memoirs* 2:1–141.
- Koçak, A. Ö., and S. Seven. 1995. Tokat *Papilionoidea* ve *Hesperioidea* Faunası ve Ekolojisi Hakkında (*Lepidoptera*). *Priamus* 7(3):93–116.
- Nieukerken, E. J. van, L. Kaila, I. J. Kitching, N. P. Kristensen, D. C. Lees, J. Minet, C. Mitter, M. Mutanen, J. C. Regier, T. J. Simonsen, N. Wahlberg, S.-H. Yen, R. Zahiri, D. Adamski, J. Baixeras, D. Bartsch, B. Å. Bengtsson, J. W. Brown, S. R. Bucheli, D. R. Davis, J. De Prins, W. De Prins, M. E. Epstein, P. Gentili-Poole, C. Gielis, P. Hättenschwiler, A. Hausmann, J. D. Holloway, A. Kallies, O. Karsholt, A. Kawahara, S. J. C. Koster, M. Kozlov, J. D. Lafontaine, G. Lamas, J.-F. Landry, S. Lee, M. Nuss, K. T. Park, C. Penz, J. Rota, B. C. Schmidt, A. Schintlmeister, J. C. Sohn, M. A. Solis, G. M. Tarmann, A. D. Warren, S. Weller, R. V. Yakovlev, V. V. Zolotuhin, and A. Zwick. Order Lepidoptera Linnaeus, 1758. In Zhang, Z.-Q. (ed.). *Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness*, pp. 212–221. *Zootaxa* 20113148:1–237.

- Okyar, Z., and N. Aktaç. 1998. Additives to *Heterocera* (*Lepidoptera*) fauna of Thracian Region. Turkish Journal of Entomology 221:47–56.
- Tolman, T., and R. Lewington. 1997. Butterflies of Britain & Europe. Collins field Guide; Harper Collins Publishers, London. 320 pp.
- Wahlberg, N., J. Leneveu, U. Kodandaramaiah, C. Pena, S. Nylin, A. V. L. Freitas, and A. V. Z. Brower. 2009. Nymphalid butterflies diversify following near demise at the Cretaceous/Tertiary boundary. Proc. R. Soc. B. 276:4295–4302.