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## Preliminary list of the Lepidoptera of Zerneş, with some faunistical, taxonomical, and molecular remarks (East Turkey, Van Province)

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**Abstract:** Preliminary list of the Lepidoptera of Zerneş, with some faunistical, taxonomical, and molecular remarks (East Turkey, Van Province). *Misc. Pap.* 171: 1-16, 41 figs. Totally 112 lepidopteran species of 18 families are reported from Zerneş, with some illustrations. Among them 5 species are new to the fauna of Van Province. Eco-faunistic, taxonomic, and molecular remarks are also added to certain species.

**Key words:** Lepidoptera, fauna, Zerneş, Van, Turkey



**Figs. 1, 2** – Summer aspects of two habitats early in the morning from Zerneş 1975m, M. Kemal (Cesa)

Zerneş is an arid, mountainous area located at the northern slopes of Zerneş Dam, eastern Van city. Natural plant cover of the studied places is highly degraded *Astragalus-Brometea*, and locally found grasslands, growing along with small mountain streams on the ophiolitic rocks (Çiftçi et al., 2008) (Figs. 1, 2).

The Lepidoptera fauna of Zerneş is very little known. Recorded some irano-turanian elements in the studying area are highly interesting (*Hyponephele naricoides*, *H. cadusia*, *Euscrobipalpa* sp., *Gnophos gorgatus*, *Myrlaea nigrosquamalis*, *Eublemma caelestis*, *Zygaena tamara*). The spring and early summer fauna of the Lepidoptera are completely unknown. This short paper will be used in the future studies.

The present pictorial list comprises some results recorded previously from the area by the authors, or information published occasionally. In parallel with our taxonomical studies, DNA

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investigations are planned for the future. Therefore, some preliminary investigations and evaluations made in this regard are also mentioned in the following list. For this purpose, various publicly accessible data in the GenBank have been interpreted.

The photographs of the moths used here were taken at the studying area in the morning before sunrise. All the specimens were identified by the authors and preserved in the Cesa Collection (Ankara).

## Lepidoptera of Zerneke

Totally 112 species of 18 families are listed in alphabetical order. Among the moths, 5 species are reported here as new to the fauna of Van Province.

### Butterflies

For the time being, the number of the butterfly species in Zerneke is 38. This will certainly increase, after studying the vernal and pre-aestival fauna of the area.

#### Argynniidae

1. *Argynnis (Fabriciana) niobe* (Linnaeus,1758)
2. *Polygonia (Comma) egea* (Cramer,[1775])
3. *Vanessa (Cynthia) cardui* (Linnaeus,1758)

#### Hesperiidae

4. *Carcharodus (s.str.) alceae* (Esper,[1780])
5. *Muschampia proteides* (F.Wagner,1929)
6. *Pyrgus armoricanus* (Oberthür,1910)

#### Lycaenidae

7. *Lampides boeticus* (Linnaeus,1767)
8. *Lycaena (s.str.) phlaeas* (Linnaeus,1761)  
*Lycaena phlaeas*: Koçak & Kemal, 2011a, *Cesa News* 66: 14 "65: Gürpınar: Zerneke barajı 2000m 31 07 2001".
9. *Lycaena (Thersamonia) kurdistanica* (Riley,1921) (Figs. 5, 6)
10. *Plebejus (Kretania) carmon* (Gerhard,[1851])
11. *Plebejus (s.str.) argus* (Linnaeus,1758)
12. *Polyommatus (Albulina (Vacciniina)) alcedo* (Christoph,1877)
13. *Polyommatus (Aricia (Ultraaricia)) crassipunctus* (Christoph,1893) (Figs. 7,8)  
Second generation has been observed in the area. The species is represented there by the ssp. *mehmetcik* (Koçak & Kemal, 2002; Ten Hagen & Schurian, 2009).
14. *Polyommatus (Aricia (s.str.)) agestis* ([Denis & Schiffermüller],1775)

15. *Polyommatus* (s.str. (*Agrodiaetus* (*Antidolus*))) *antidolus* (Rebel,1901)
16. *Polyommatus* (s.str. (*Agrodiaetus* (*Damaia*))) *hopfferi* (Gerhard,[1851]) (Fig. 9)
17. *Polyommatus* (s.str. (*Agrodiaetus* (*Transcaspius*))) *ninae* (Forster,1956)
18. *Polyommatus* (s.str. (*Agrodiaetus* (*Xerxesia*))) *cyaneus* (Staudinger,1899)
19. *Polyommatus* (s.str. (*Thersitesia*)) *thersites* (Canterer,[1835]) (Fig.10)
20. *Polyommatus* (s.str.) *icarus* (Rottemburg,1775)
21. *Pseudophilotes vicrama* (Moore,1865)
22. *Satyrrium* (*Armenia*) *ledereri* (Boisduval,1848)
23. *Satyrrium* (*Nordmannia*) *abdominalis* (Gerhard,[1850])
24. *Satyrrium* (*Strymonidia*) *spini* (Fabricius,1787)

### Papilionidae

25. *Papilio* (s.str.) *machaon* Linnaeus,1758 (Fig.11)  
A full grown caterpillar (less pigmented summer form) was observed in the studying area, approaching to f. *albicans*.

### Pieridae

26. *Pontia edusa* (Fabricius,[1777])  
*Pontia edusa*: Koçak & Kemal, 2011b, *Cesa News* 67: 12 "65: Gürpınar: Zerneke barajı 2000m 31 07 2001".

### Satyridae

27. *Chazara* (s.str.) *bischoffi* (Herrich-Schäffer,[1846])  
*Chazara bischoffi*: Koçak & Kemal, 2011b, *Cesa News* 67: 13 "65: Gürpınar: Zerneke barajı 2000m 31 07 2001".
28. *Chazara* (s.str.) *briseis* (Linnaeus,1764)
29. *Coenonympha* (s.str.) *pamphilus* (Linnaeus,1758)  
Locally found in grassy places.
30. *Hyponephele* (s.str. (*Ereminphele*)) *naricoides* Gross,1977  
Locally found on the stony slopes.
31. *Hyponephele* (s.str. (*Tengrinphele*)) *cadusia* (Lederer,1869)  
Locally found on the stony slopes. This species is represented around Zerneke by the ssp. *zerneca* (Skala, 2003).
32. *Hyponephele* (s.str.) *lupina* (Costa,[1836])  
Locally found on the stony slopes.
33. *Hyponephele* (s.str.) *lycaon* (Rottemburg,1775)  
Locally found on the stony slopes.

**34. *Maniola (s.str.) jurtina* (Linnaeus,1758)**

Locally found in grassy places.

**35. *Melanargia (Turcargia) hylata* (Ménétriés,1832)****36. *Melanargia (Turcargia) syriaca* (Oberthür,1894)****37. *Pseudochazara (s.str.) beroe* (Freyer,[1843])****38. *Pseudochazara (s.str.) pelopea* (Klug,1832)**

*Pseudochazara pelopea*: Koçak & Kemal, 2011b, *Cesa News* 67: 19 "65: Gürpınar: Zerne barajı 2000m 31 07 2001".

This species was also illustrated from Zerne on 24 7 2011 by Kemal & Koçak, 2011: pl.16 fig.3).

### Moths

Totally 74 species of families are listed here. The material was collected mostly by using light trap. Only a few species were observed by day. In the area, some arthropods (Araneida, Solifugae, Scorpionida, Mantodea) were frequently observed as nocturnal predators (Figs. 3, 4).

Some eco-faunistic, taxonomic, and molecular remarks are also added below to certain species.



**Figs. 3, 4** – After attacking predators in Zerne, on 20.vii.2017. Rest of the various moth species (left), *Eremopeza saussurei* (Uvarov,1918) described from Iran (Azerbaijan) (right). This species was previously recorded by the authors in Van Province, Çatak (Darboğaz). It is widely distributed in Iran. M.Kemal (Cesa)

### Arctiidae

**39. *Lacydes spectabilis* (Tauscher,1806)**

An autumnal species. Adults nocturnal.

### Cossidae

**40. *Phragmacossia territa* Staudinger,1878**

Adults nocturnal.

### Gelechiidae

**41. *Aroga* sp. (Fig.12)**

In Van Province, the genus is represented by two species, *aristotelis* and *kurdistana*. *Aroga aristotelis* is very common in the mountainous steppe in summer. The present species differs from both species mentioned above both externally, and the genital morphology (GP2895, GP2896,

GP2897, GP2901). A separate study about the *Aroga* species of the province has been planned including molecular comparison among the species.

42. *Metanarsia incertella* (Herrich-Schäffer,1861)<sup>2</sup> (Fig.13)  
A nocturnal species. New to the fauna of Van Province.
43. *Euscrobipalpa* sp.  
A good series of this currently unidentified species were collected on xxxx. Its wingspan about 12mm. By using the external characters, *i.e.*, bi-coloured forewing, well developed dark brown longitudinal median band, it may be easily recognized to some level. It is closer to *Euscrobipalpa perinii*<sup>3</sup> from SE Europe, to *albostrata*<sup>4</sup> from NW Iran, and *picta*<sup>5</sup> from Afghanistan. Uncus longer than width, sacculus folds narrow and; therefore it seems closer to *picta* than the others. Geographically *albostrata* from NW Iran is the closest to this species, however, broader uncus and different shape of sacculus are important differences to be considered (Povolny, 2002). It is hard to decide about identity, and to go further without new complementary information.
44. *Nothris radiata* (Staudinger,1879)<sup>6</sup>  
The identity of this species is based upon the genital morphology of the male, described by Karsholt & Sumpich (2015).  
Material studied: 1♂ (GP2907). Van Province, Gürpınar, Zerne 1975m, M. Kemal & A.Koçak leg. (Cesa)  
This species is new to the fauna of Van Province.
45. *Nothris verbascella* ([Denis & Schiffermüller],1775)
46. *Stomopteryx detersella* (Zeller,1847)<sup>7</sup> (Fig.14)  
New to the fauna of Van Province.
47. *Stomopteryx gaesata* (Meyrick,1913)<sup>8</sup> (Fig.15)  
See: Kemal & Koçak (2015).
48. *Streyella anguinella* (Herrich-Schäffer,1861)<sup>9</sup> (Fig.16)
49. *Syncopacma polychromella* (Rebel,1902)<sup>10</sup>  
See: Kemal & Koçak (2012).

## Geometridae

50. *Idaea* aff. *ochrata* (Scopoli,1763) (Fig.17)  
Diurnal-nocturnal in grasslands.
51. *Gnophos (Dicrognophos)* sp.  
Adults nocturnal and common in Van Province. Its identity is not easy without reference work containing the genitalic illustration properly prepared. This group contains several externally similar species, inhabiting in East Turkey, Northern Iraq, Iran, and Caucasus. Wehrli (1953) illustrated upperside of wings of *snelleni* (northern Iran, Turkmenistan), *orthogonia* (Iran, and type-species of the subgenus *Dicrognophos* Whli.), *amanensis* (S. Turkey), *wiltshirei* (northern Iraq), *gorgata* (W. Iran), *elachi* (Iran), *chorista* (Iran), and *brandtorum* (Iran). Among them, the

<sup>2</sup> No molecular information in GenBank. In Boldsystems, a single record but publicly unavailable.

<sup>3</sup> COI-5P:658 is available in the boldsystems.

<sup>4</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>5</sup> A single specimen of this species is mentioned but without access publicly.

<sup>6</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>7</sup> No molecular information in GenBank. In Boldsystems, a single record but publicly unavailable.

<sup>8</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>9</sup> No molecular information in GenBank. In Boldsystems, 5 records but publicly unavailable.

<sup>10</sup> No molecular information neither in GenBank, nor in Boldsystems.

holotypes of the following species described from Iran are preserved in Sweden Museum and illustrated externally in the internet site:<sup>11</sup> *brandtorum*, *elahi*, *gorgata*. According to the illustrated external features, *gorgata* is apparently confined to Hakkari and southern Van Province (Bahçesaray). On the other hand, it is also possible that *pseudosnelleni* described by Rjabov (1964) from Armenia, occurs in South-East Turkey. Although the male genitalia and external illustrations were given by Rjabov, there are still gaps in the identification of *pseudosnelleni*-like populations in SE Turkey. As a last word it can be said that a serious revision on this group is needed.

52. *Rhometra sacraria* (Linnaeus,1767)

At least two generations are known in this region. Diurnal-nocturnal.

53. *Rhodostrophia (Asiotrophia) auctata* (Staudinger,1879) (Fig.18)

Remarks: Some publicly accessible data of the mtCOI features of the *Rhodostrophia* species of Turkey in the GenBank are here interpreted. Before doing this, the number of base substitutions per site from between sequences are shown. Analyses were conducted using the Kimura 2-parameter model (Srivathsana & Meiera,2012). The analysis involved 6 nucleotide sequences. Codon positions included were 1st+2nd+3rd+Noncoding. All positions containing gaps and missing data were eliminated. There were a total of 658 positions in the final dataset. Evolutionary analyses were conducted in MEGA6 (Kumar, Stecher & Tamura, 2016). First results on the estimates of evolutionary divergence between sequences are so:

*vibicaria* - *calabra* = 0.084; *auctata* - *calabra*=0.073; *iranica* - *calabra*=  
0.077; *discopunctata* - *calabra* =0.009; *sieversii* - *calabra* =0.070

These values reveal that *vibicaria* is the most ancestral species, comparing with the others. It may also be considered as a member of a distinct genus. In the nominate *Rhodostrophia*, *calabra* and *discopunctata* are a sister group. Comparing with them *sieversii* seems to be more ancestral species. Similarly, *nesam* (from Iran) and *auctata* are also ancestral species, respectively. The dividing *Rhodostrophia* into following subgenera, *Pellonia* (for *vibicaria*), *Pydna* (for the species, *badiaria*, *bahara*, *iranica*), *Asiotrophia* (for *auctata*), and the nominate subgenus (for *calabra*, *discopunctata*, and *sieversii*) is also supported by the preliminary molecular analysis (under preparation).

54. *Scopula beckeraria* (Lederer,1853) (Fig.19)

55. *Scopula orientalis* (Alpheraky,1876)

Both species widely distributed in eastern Turkey. Adults nocturnal.

### Lasiocampidae

56. *Lasiocampa eversmanni* (Kindermann,1843)

Adults autumnal and nocturnal.

57. *Malacosoma castrensis* (Linnaeus,1758)

### Noctuidae

58. *Calamia staudingeri* Warnecke,1941 (Fig.20)

59. *Chersotis (s.str.) fimbriola* (Esper,[1798])

60. *Dichagyris (Yigoga) truculenta* (Lederer,1853)

61. *Drasteria saisani* (Staudinger,1882)

<sup>11</sup> [http://www2.nrm.se/en/lep\\_nrm/b/](http://www2.nrm.se/en/lep_nrm/b/)



62. *Episema lederi* Christoph,1885  
Adults autumnal and nocturnal.
63. *Eublemma (albida-gr.) compunctum* (Lederer,1872)
64. *Eublemma (candidana-gr.) minutatum* (Fabricius,1794)
65. *Eublemma (candidana-gr.) pulchralis* (De Villers,1789)
66. *Eublemma (pallidula-gr.) pallidulum* (Herrich-Schäffer,1856)
67. *Eublemma (parva-gr.) parvum* (Hübner,[1808])
68. *Eublemma (rosina-gr.) caelestis* (Brandt,1938)
69. *Eublemma (rosina-gr.) panonicum* (Freyer,1840)
70. *Eugnorisma (s.str.) eminens* (Lederer,1855)  
Adults autumnal and nocturnal.
71. *Euxoa (s.str.) conspicua* (Hübner,[1824])
72. *Euxoa (s.str.) homicida* (Staudinger,1900)
73. *Euxoa (s.str.) scurrilis* Draudt,1937
74. *Haemerosia renalis* (Hübner,[1813]) (Fig.21)
75. *Mythimna (Aletia) vitellina* (Hübner,[1808])
76. *Rhypagla lacernaria* (Hübner,[1813])
77. *Tholera decimalis* (Poda,1761)  
Adults autumnal and nocturnal.
78. *Zekelita (Ravalita) ravalis* (Herrich-Schäffer,[1852]) (Fig.22)

### **Pyralidae (s.l.)**

Totally 26 species are recorded from Zernek. This and further material to be collected will be evaluated separately. For this purpose, “*The Pyralioidea (Lepidoptera) of Van Lake Basin (East Turkey)*” has been submitted by the authors to the Van Yüzüncü Yıl University as a research project. This will comprise taxonomical and molecular evaluations of the related group. Such a study is urgently needed for not only for the Pyraloidea, but also for the whole Lepidoptera families of Turkey. See footnotes below.

79. *Ancylosis hellenica* (Staudinger,1870)<sup>12</sup>
80. *Arsissa ramosella* (Herrich-Schäffer,[1855])<sup>13</sup>
81. *Bradyrrhoa (s.str.) gilveolella* (Treitschke,1833)<sup>14</sup> (Fig.23)

<sup>12</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>13</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>14</sup> Molecular information are poorly represented in GenBank, and in Boldsystems.

82. *Cadra furcatella* (Herrich-Schäffer,[1849])<sup>15</sup> (Fig.34, 35)
83. *Cynaeda (s.str.) gigantea* (Staudinger,1879)<sup>16</sup>
84. *Ecpyrrhorrhoe diffusalis* (Guenée,1854)<sup>17</sup> (Fig.24)
85. *Ephelis cruentalis* (Geyer,[1832])<sup>18</sup>
86. *Epischnia* sp. (Fig.29)
87. *Euzophera (s.str.) luculentella* Ragonot,1888<sup>19</sup>  
Kemal & Koçak (2017) illustrated the adult moth, male genitalia tympanal organ, etc. of this species from Zerneke.
88. *Hypotia colchicalis* (Herrich-Schäffer,[1855])<sup>20</sup> (Fig.25)
89. *Keradere noctivaga* (Staudinger,1879)<sup>21</sup> (Fig.26)
90. *Mecyna subsequalis* (Herrich-Schäffer,1855)<sup>22</sup>
91. *Mecyna trinalis* ([Denis & Schiffermüller],1775)<sup>23</sup>
92. *Metacrambus carectellus* (Zeller,1847)<sup>24</sup> (Fig.27)
93. *Metasia supbandalis* (Hübner,[1823])<sup>25</sup>
94. *Myrlaea albistrigata* (Staudinger,1881)<sup>26</sup>
95. *Myrlaea nigrosquamalis* (Amsel,1950)<sup>27</sup> (Fig.28)  
Kemal & Koçak (2016) illustrated the male genitalia, abdominal segments, and tympanal organ of this species from Artos Mt. (Gevaş, Van Pr.). Nocturnal, usually sympatric with the previous species. It inhabits mountain steppe.
96. *Nomophila noctuella* ([Denis & Schiffermüller],1775)<sup>28</sup>
97. *Paracorsia repandalis* ([Denis & Schiffermüller],1775)<sup>29</sup>
98. *Parapoinx stratiotatum* (Linnaeus,1758)<sup>30</sup> (Fig.29)
99. *Pterothrixidia rufella* (Duponchel,1836)<sup>31</sup> (Fig.30)
100. *Pyralis perversalis* (Herrich-Schäffer,[1849])<sup>32</sup> (Fig.31)

<sup>15</sup> Molecular information is represented by a single record in GenBank. In Boldsystems, there is no record publicly assessible.

<sup>16</sup> No molecular information neither in GenBank. In Boldsystems, there is a single record publicly assessible.

<sup>17</sup> No molecular information neither in GenBank. In Boldsystems, there are two records from Italia publicly assessible.

<sup>18</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>19</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>20</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>21</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>22</sup> No molecular information neither in GenBank, nor in Boldsystems, accessible.

<sup>23</sup> No molecular information in GenBank; however, there are 3 accessible records from France and Italy in Boldsystems.

<sup>24</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>25</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>26</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>27</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>28</sup> Enough molecular information both in GenBank, and in Boldsystems.

<sup>29</sup> Enough molecular information in Boldsystems.

<sup>30</sup> Enough molecular information in Boldsystems.

<sup>31</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>32</sup> No molecular information neither in GenBank, nor in Boldsystems.



101. *Pyrausta despicata* (Scopoli,1763) <sup>33</sup>
102. *Stemmatophora brunnealis* (Treitschke,1829) <sup>34</sup> (Fig.32)
103. *Tegostoma perlepidalis* (Guenée,1854) <sup>35</sup>
104. *Udea praepetalis* (Lederer,1869) <sup>36</sup>

### Sphingidae

105. *Hyles euphorbiae* (Linnaeus,1758) (Fig.33)

### Tineidae

106. *Ateliotum hungaricellum* Zeller,1839 (Figs.36-39)  
Material studied: 1♂. Van Province, Tuşba, Ağartı 1950m (65Np2), GP2868. - 1♂. Van Province, Gürpınar, Zernek 1975m (65Gb), 20 7 2017. - 3♂. Van Province, Çatak, Saklıvadi 2030m (65Df), 25 7 2017, all M. Kemal & A.Koçak leg. (Cesa).  
The species is new to the fauna of Van Province.

### Tortricidae

107. *Aethes* sp.
108. *Eugnosta magnificana* (Rebel,1914)
109. *Pelochrista arabescana* (Eversmann,1844)  
New to the fauna of Van Province.
110. *Phalonidia contractana* (Zeller,1847) (Fig. 40, 41)

### Yponomeutidae

111. *Yponomeuta malinella* (Zeller,1838)

### Zygaenidae

112. *Zygaena (Mesembrynus) tamara* Christoph,1889  
This species was illustrated from Zernek 2000m, on 31 7 2001, by Koçak (Kemal & Koçak, 2010: 28, fig.40).

<sup>33</sup> Enough molecular information both in GenBank, and in Boldsystems.

<sup>34</sup> In Boldsystems, there are three records from Italia publicly assessible.

<sup>35</sup> No molecular information neither in GenBank, nor in Boldsystems.

<sup>36</sup> No molecular information neither in GenBank, nor in Boldsystems.

## References

- Çiftçi, Y., Işık, M.A., Alkeçli, T. & Ç.Yeşilova, 2008. Environmental Geology of Lake Van Basin. *Jeol. Müh. Derg.* 32 (2): 45-77 [in Turkish].
- Genbank:** <https://www.ncbi.nlm.nih.gov/> [last access, on 18.iii.2018]
- Karsholt, O. & J.Sumpich,** 2015. A review of the genus *Nothris* Hübner, 1825, with description of new species (Lepidoptera, Gelechiidae). *Zootaxa* 4059 (3): 471-498, figs.
- Kemal, M. & A.Ö.Koçak,** 2010. Illustrated list of the *Zygaena* Fabr. species in Turkey based upon the Infosystem of the Cesa (Lepidoptera, Zygaenidae, Zygaeninae). *Cesa News* 54: 1-35, 53 figs.
- Kemal, M. & A.Ö.Koçak,** 2011. A synonymical, and distributional checklist of the Papilionoidea and Hesperioidea of East Mediterranean countries, including Turkey (Lepidoptera). *Priamus* (Suppl.) 25, 1-162, 42 Pls.
- Kemal, M. & A.Ö.Koçak,** 2012. On the occurrence of *Syncopacma polychromella* (Rbl.) in Turkey (Lepidoptera, Gelechiidae). *Cesa News* 82: 19-21, 3 figs. 1 map.
- Kemal, M. & A.Ö.Koçak,** 2015. *Stomopteryx gaesata* (Meyrick), little known species in Van and Bitlis Provinces (Lepidoptera, Gelechiidae). *Cesa News* 104: 1- 4, 5 figs.
- Kemal, M. & A.Ö.Koçak,** 2016. Annotated list of the Pterygota fauna of Artos Mountain (Van Province, East Turkey). *Cesa News* 125: 1-36, 30 figs.
- Kemal, M. & A.Ö.Koçak,** 2017. Some faunistic and taxonomic notes on two *Euzophera* species of East Turkey (Lepidoptera, Pyralidae). *Cesa News* 147: 1-6, 11 figs, 1 map, 1 table.
- Koçak, A.Ö. & M.Kemal,** 2002. Faunistik taksonomik ve zoocoğrafik notlarla Çatak kelebekleri (Papilionoidea, Hesperioidea, Lepidoptera). *Misc. Pap.* 82/85: 1-32, figs.
- Koçak, A.Ö. & M. Kemal,** 2011a, Notes on the Insecta in the Collection of the Cesa. Lepidoptera of Turkey-I. *Cesa News* 66: 1-37.
- Koçak, A.Ö. & M. Kemal,** 2011b, Notes on the Insecta in the Collection of the Cesa. Lepidoptera of Turkey-II. *Cesa News* 67: 1-26.
- Kumar S., Stecher G. & K.Tamura,** 2016. MEGA7: Molecular Evolutionary Genetics Analysis Version 7.0 for Bigger Datasets. *Molecular Biology and Evolution* 33 (7): 1870-1874.
- Povolny, D.,** 2002. *Iconographia tribus Gnorimoschemini (Lepidoptera, Gelechiidae) regionis palaearticae.* 110pp. 87 Tafel. Bratislava.
- Rjabov, M.A. & S.A.Vardikyan,** 1964, Caucasian species of the genus *Gnophos*. *Trans. Acad. Sci. ArmSSR, Zool. Inst.:* 105-147, figs.
- Skala, P.,** 2003. New taxa of the genus *Hyponephele* Muschamp, 1915 from Iran and Turkey (Lepidoptera, Nymphalidae). *Linneana Belgica* 19 (1): 41-50.
- Srivathsana, A. & R.Meiera,** 2012. On the inappropriate use of Kimura-2-parameter (K2P) divergences in the DNA-barcoding literature. *Cladistics* 28: 190-194.
- Ten Hagen, W. & K.G.Schurian,** 2009. *Polyommatus (Aricia) crassipunctus varicolor* ssp.n., eine neue Unterart aus Iran (Lepidoptera, Lycaenidae). *Nachr. ent. Ver. Apollo* (N.F.) 30 (1/2): 9-17, figs.
- Wehrli, E.,** 1939-1954, Subfamilie: Geometrinae. [In] Seitz, A., *Die Gross-Schmetterlinge der Erde* (Suppl.) 4: 254-685, Pls. Stuttgart.

**Images from nature**

**Figs. 5, 6** – *Lycaena kurdistanica*. Female (left), male (right). Van Prov., Gürpınar, Zernek, 1975m, 19.vii.2017, M. Kemal (Cesa)



**Figs. 7, 8** – *Polyommatus crassipunctus*. Male (left), female (right). Zernek, 1970m, 26-27.viii.2017, M. Kemal (Cesa)



**Figs. 9, 10** – *Polyommatus hopfferi*, male (left); *Polyommatus thersites*, males (right). Zernek, 1970m, 20.vii.2017, 26.viii.2017 respectively, M. Kemal (Cesa)



**Fig. 11** - *Papilio machaon* f. *albicans*. Full grown caterpillar. Zernek, 1970m, 27.viii.2017, M. Kemal (Cesa)



**Figs. 12, 13** - *Aroga* sp. Male at rest (left); *Metanarsia incertella*. Resting male (right). Both from Zernek, 1970m, 20.vii.2017, M. Kemal (Cesa)



**Figs. 14, 15** - *Stomopteryx detersella*. Male (left); *Stomopteryx gaesata*. Male (right). Both from Zernek, 1970m, 20.vii.2017, M. Kemal (Cesa)





**Figs. 16, 17** – *Streyella anguinella*. At rest (left); *Idaea* aff. *ochrata*. Male (right). Both from Zernek, 1970m, 19-20.vii.2017, M. Kemal (Cesa)



**Figs. 18, 19** – *Rhodostrophia* (*Asiotrophia*) *auctata*. At rest on 27.viii.2017 (left); *Scopula beckeraria*. Male, on 20.vii.2017 (right). Both from Zernek, 1970m, M. Kemal (Cesa)



**Figs. 20, 21** – *Calamia staudingeri*. Observed during resting on the leaf of *Verbascum* by day, 15.vii.2009 (left); *Haemerosia renalis*, on 20.vii.2017 (right). Both from Zernek, 1970m, M. Kemal (Cesa)



**Figs. 22, 23** – *Zekelita ravalis*, in copula (left); *Bradyrrhoa gilveolella*, a female at rest (right). Both from Zerne, 1970m, on 20.vii.2017, M. Kemal (Cesa)



**Figs. 24, 25** – *Ecpyrrorrhoe diffusalis* (left); *Hypotia colchicalis* (right). Both during resting from Zerne, 1970m, on 20.vii.2017, M. Kemal (Cesa)



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**Figs. 28, 29** – *Myrleae nigrosquamalis* (left); *Parapoynx stratiotatum* (right: above), together with *Epischnia* sp. (right: below). From Zerneq, 1970m, on 20.vii.2017, M. Kemal (Cesa)



**Figs. 30, 31** – *Pterothrixidia rufella* (left); *Pyralis perversalis* (right). From Zerneq, 1970m, on 20.vii.2017, M. Kemal (Cesa)

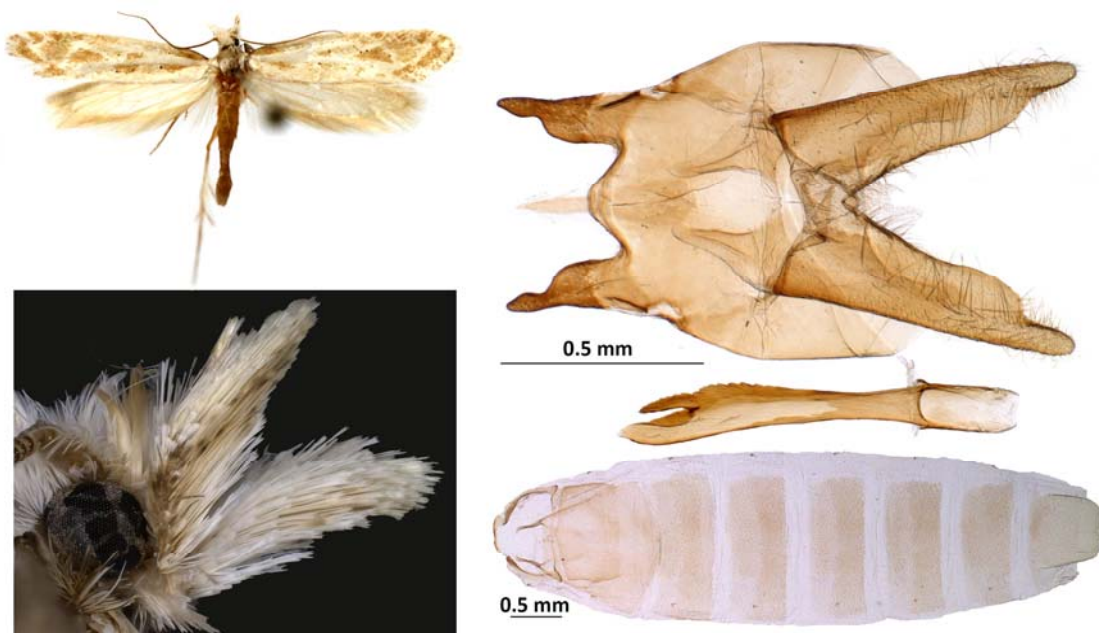


**Figs. 32, 33** – *Stemmatophora brunnealis*. At rest on 27.viii.2017 (left); *Hyles euphorbiae*. Caterpillar on *Euphorbia* sp. (right), both from Gürpınar, Zerneq. M. Kemal (Cesa).



**Male genitalia**

**Figs. 34, 35** – *Cadra furcatella*. Upperside of male (left). Male genitalia, GP2876. Van Prov., Gürpınar Zerne, M. Kemal (Cesa)



**Figs. 36-39** – *Ateliotum hungaricellum*. Upperside of male, lateral view of head. Male genitalia and abdominal skin, GP2868. Van Prov., Tuşba, Ağartı, Gören Mt. 1950m (65Np2), M. Kemal (Cesa)



**Figs. 40, 41** – *Phalonidia contractana*. Upperside of male (left). Male genitalia and abdominal skin, GP2831. Van Prov., Gürpınar Zerne, M. Kemal (Cesa)

**C o n t e n t s : Kemal,M., Kızıldağ,S. & A.Ö.Koçak,** Preliminary list of the Lepidoptera of Zerneke, with some faunistic, taxonomical, and molecular remarks (East Turkey, Van Province), p.1 - **editorial**, p.17.

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