

**Provided for non-commercial research and education use.
Not for reproduction, distribution or commercial use.**



Egyptian Academic Journal of Biological Sciences is the official English language journal of the Egyptian Society for Biological Sciences, Department of Entomology, Faculty of Sciences Ain Shams University.

Entomology Journal publishes original research papers and reviews from any entomological discipline or from directly allied fields in ecology, behavioral biology, physiology, biochemistry, development, genetics, systematics, morphology, evolution, control of insects, arachnids, and general entomology.

www.eajbs.eg.net



Review of subfamily: Xyleninae of Egypt (Lepidoptera, Noctuidae)

Abdelfattah, M. A. Salem¹, Ashraf, M. El Torkey² and Salah, A. Al Azab²

1. Senior Scientific Officer, Inter African Phytosanitary Council, African Union

2. Insect classification and survey Dept., Plant Protection Res. Inst., Agric. Res. Center

E.Mail: AmerA@africa-union.org

REVIEW INFO

Review History

Received:25/7/2018

Accepted:29/8/2018

Keywords:

Lepidoptera,

Noctuidae,

Xyleninae,

Egypt.

ABSTRACT

Based on material from the main reference collections in Egypt, light traps collections, National museums and other references, 44 species in 6 tribes (Apameini, Caradrinini, Cosmiini, Phlogophorini, Prodeniini and Xylenini) and 21 genera were listed. Some further taxonomic changed re proposed. Taxonomic position, synonyms and types are included and photographs for available species are provided. This subfamily according to the new taxonomy of Noctuidae and it is the first time to review in Egypt.

Important Note: For correction in the last paper by Abdelfattah Mabrouk Amer Salem and Ashraf M. El Torkey (2017), we have mention that *Spodoptera exempta* are exist in Egypt according to Haggis (1986), but when we revised the paper we found that she didn't mention that collect any specimens or recorded any specimens from anywhere in Egypt, so, we exclude them from the paper because of we didn't find any specimens and any records from anywhere in Egypt, so that *Spodoptera exempta* are not recorded completely and not exist in Egypt.

INTRODUCTION

Subfamily Xyleninae contains 4000-5000 species worldwide, including the most species rich group of the polyphyletic Amphipyridae, but also containing many genera formerly classified as Cuculliinae. It is subdivision into tribes follows that of Fibiger & Lafontaine (2005) and Fibiger & Hacker (2005). The definition of tribes is often difficult, with borders sometimes unclear due to the close relationships observed between all genera. Therefore, the monophyly of many tribes is doubtful.

The distribution, host plant and abundance of 44 species in 21 genera of xyleninae are summarized. There are 6 tribes recorded in Egypt as follow: (Apameini has 7 species & 4 genus; Caradrinini has 17 species belonging to 5 genera; Cosmiini has one genus and one 2 species; Phlogophorini has 2 species under 2 genera; Prodeniini has 3 species under one genus; and finally Xylenini which has 13 species under 8 genera). By surveying and from different literatures and from different National Museum we collect some unknown data for Egypt. Reviewed of taxonomy of Family Noctuidae and its subfamily was made before this study, then reclassified subfamilies and study all subfamilies and this is the first study.

MATERIALS AND METHODS

The main five references collections in Egypt are: Collection of Ministry of Agriculture, Plant protection Research Institute (PPRI); Collection of Faculty of Science, Cairo University (CUC); Collection of Faculty of Science, Ein Shams University (ESUC); Collection of El Alfieri, Al Azhar University, Faculty of Agriculture (ALUC) and Collection of Egyptian Entomological Society (EESC).

* The published papers and Thesis in Egypt.

* Data from the Collections of International Museums (BM, London; Smithsonian, USA; ZI, Leningrad; MNHU, Berlin; MNHN, Paris).

* Main monographs of Lepidoptera in the world

RESULTS AND DISCUSSION

Subfamily Xyleninae Guenée, 1837

List of subfamily Xyleninae

1. Tribe Prodeniini Forbes, 1954

1. *Spodoptera* Guenée, 1852

1. *Spodoptera ciliium* (Guenée, 1852)
2. *Spodoptera exigua* (Hübner, 1808)
3. *Spodoptera littoralis* (Boisduval, 1833)

2. Tribe Caradrinini Boisduval, 1840

Subtribe Caradrinina Boisduval, 1840

2. *Caradrina* Ochsenheimer, 1816
4. *Caradrina alfierii* (Boursin, 1937)
5. *Caradrina aspersa* (Rambur, 1834)
6. *Caradrina atriluna* Guenée, 1852
7. *Caradrina bodenheimeri* Amsel, 1935
8. *Caradrina clavipalpis* (Scopoli, 1763)
9. *Caradrina flava* Oberthür, 1876
10. *Caradrina ingrata* (Staudinger, 1897)
11. *Caradrina katherina* Wiltshire, 1947
12. *Caradrina melanurina* (Staudinger, 1901)
13. *Caradrina oberthuri* (Rothschild, 1913)
14. *Caradrina scotoptera* (Püngeler, 1914)
15. *Caradrina selini* Boisduval, 1840
16. *Caradrina soudanensis* (Hampson, 1918)

3. *Catamecia* Staudinger, 1898

17. *Catamecia minima* (Swinhoe, 1889)

4. *Hoplodrina* Boursin, 1937

18. *Hoplodrina ambigua* (Denis & Schiffermüller, 1775)

5. *Pseudoligia* Staudinger, 1901

19. *Pseudoligia similiaria* (Ménétriés, 1849)

6. *Scythocentropus* Speiser, 1902

20. *Scythocentropus inquinata* (Mabille, 1888)

3. Tribe Cosmiini Guenée, 1852

Subtribe Cosmiina Guenée, 1852

7. *Atethmia* Hübner, [1821]

21. *Atethmia ambusta* (Denis & Schiffermüller, 1775)
22. *Atethmia centrargo* (Haworth, 1809)

4. Tribe Phlogophorini Hampson, 1918

8. *Euplexia* Stephens, 1829
 23. *Euplexia lucipara* (Linnaeus, 1758)
9. *Phlogophora* Treitschke, 1825
 24. *Phlogophora meticulosa* (Linnaeus, 1758)
- 5. Tribe Apameini Guenée, 1841**
 Subtribe **Apameina** Boisduval, 1828
10. *Luperina* Boisduval, 1829
 25. *Luperina diversa* (Staudinger, 1892)
 26. *Luperina grzimeki* Hacker, 1989
 11. *Nonagria* Ochsenheimer, 1816
 27. *Nonagria typhae* (Thunberg, 1784)
 12. *Sidemia* Staudinger, 1892
 28. *Sidemia beduina* Wiltshire, 1948
- Subtribe **Sesamiina** Fibiger & Goldstein, 2005
13. *Sesamia* Guenée, 1852
 29. *Sesamia cretica* Lederer, 1859
 30. *Sesamia nonagrioides* (Lefebvre, 1827)
 31. *Sesamia wiltshirei* Rungs, 1963
- 6. Tribe Xylenini Guenée, 1837**
 Subtribe **Antitypina** Forbes & Frandemont, 1954
14. *Aporophyla* Guenée, 1841
 32. *Aporophyla nigra* (Haworth, 1809)
 15. *Boursinia* Brandt, 1938
 33. *Boursinia discordans* (Boursin, 1940)
 34. *Boursinia lithoxylea* (Bang-Haas, 1912)
 16. *Conistra* Hübner, [1821]
 35. *Conistra staudingeri* Graslin, 1863
 17. *Mniotype* Franclemont, 1941
 36. *Mniotype compitalis* (Draudt, 1909)
 18. *Polymixis* Hübner, [1820]
 37. *Polymixis aurora* (Turati, 1924)
 38. *Polymixis juditha* (Staudinger, 1898)
 39. *Polymixis lea* (Staudinger, 1897)
 40. *Polymixis variabile* (Stertz, 1915)
19. *Pseudamathes* Hampson, 1910
 41. *Pseudamathes volloni* Lucas, 1907
 20. *Xanthia* Ochsenheimer, 1816
 42. *Xanthia ocellaris* (Borkhausen, 1792)
- Subtribe **Xylenina** Guenée, 1837
 21. *Xylena* Ochsenheimer, 1816
 43. *Xylena infusa* Walker, 1870
 44. *Xylena lefebvrei* Bugnion, 1837

Subfamily Xyleninae Guenée, 1837

Tribe 1: Prodeniini Forbes, 1954

1. Spodoptera Guenée, 1852

1. *Spodoptera cilium* (Guenée, 1852)

- Laphygma cycloides* Guenée, 1852.
Spodoptera capicola Herrich-Schäffer, 1854.
Caradrina latebrosa Lederer, 1855.

Caradrina praeterita Walker, 1857.

Caradrina orbicularis Walker, 1857.

Laphygma procedens Walker, 1857.

Laphygma obliterans Walker, 1862.

Laphygma imperviata Walker, 1865.

Laphygma retrahens Walker, 1870.

Common name: Cape lawn Moth.

Wingspan: 26 – 31mm.

Host records: lawns and turf, Gramineae *Cynodon dactylon*, tobacco, grasses, *Oryza* sp., *Zea mays*.

Geographical Records: Spain, Italy, Algeria, Burkina FassoDR Congo, Eritrea, Ethiopia, Gambia, Kenya, Lesotho, Libya, Madagascar, Mauritania, Mauritius, Morocco, Mozambique, Niger, Nigeria, Reunion, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Tanzania, Tunisia, Zimbabwe, Oriental tropics, Indonesia, Iran, India, Cyprus, Israel, Syria, Jordan, U. Arab Emirate, Oman, Lebanon, Palestine, Turkey, China, Iraq, Japan, Pakistan, Sri Lanka.

Distribution in Egypt: Lower & Upper Egypt, Western Desert, Eastern Desert, Coastal Stripe, Sinai, Fayoum.

Type locality: Indonesia (Java).

Syntype: MNHN, male.

2. *Spodoptera exigua* (Hübner, 1808)

Noctua exigua Hübner, 1808.

Noctua fulgens Geyer, 1832.

Caradrina pygmaea Rambur, 1834.

Caradrina junceti Zeller, 1847.

Laphygma caradrinoides Walker, 1856.

Caradrina flavimaculata Harvey, 1876.

Caradrina sebhana Austaut, 1880.

Caradrina venosa Butler, 1880.

Laphygma exigua antipodea Warren, 1914.

Douzdrina protector De Laever, 1985.

Common name: small mottled willow, lesser army-worm, beet army-worm.

Wingspan: 27-31.

Host records: Polyphagous, field crops, greenhouse crops, vegetables, grasses, *Amaranthus*, *Taraxacum*.

Geographical Records: Spain, Botswana, Burkina Faso, Cape Verde, Chad, DR Congo, Cote d'Ivoire, Eritrea, Ethiopia, Ghana, Kenya, Lesotho, Libya, Tunisia, Madagascar, Mauritania, Mauritius, Namibia, Niger, Nigeria, Reunion, Sudan, Kuwait, Oman, Saudi Arabia, Somalia, UA Emirate, Russia, Iraq, India, Japan, southern USA, Nicaragua, Algeria, New South Wales, France, Israel, Syria, Jordan, Lebanon, Finland, Morocco, Portugal, Belgium, England, Ireland, Turkey, Romania, Ukraine, Crete, Sweden, Italy, Malta, Denmark, Yemen, Vietnam, Canada, China .

Distribution in Egypt: Lower & Upper Egypt, Western Desert, Eastern Desert, Coastal Stripe, Sinai, Fayoum.

Type locality: Europe.

Holotype: MNHN, ?sex.

3. *Spodoptera littoralis* (Boisduval, 1833)

Hadena littoralis Boisduval, 1833.

Hadena retina Freyer, 1845.

Prodenia testaceoides Guenée, 1852.

Prodenia metriodes Bethune-Baker, 1911.

Common name: Egyptian cotton leaf worm, Mediterranean brocade, Mediterranean climbing cutworm.

Wingspan: 35-40 mm.

Host records: field crops, greenhouse crops, vegetables.

Geographical Records: Angola, Burundi, Cape Verde, Chad, Comoros, DR Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Kenya, Madagascar, Mauritania, Mauritius, Nigeria, Reunion, Senegal, Seychelles, Somalia, South Africa, Sudan, Tanzania, Uganda, Sao Tome & Principe Kuwait, Oman, Saudi Arabia, Yemen, UA Emirates, Zambia, Zimbabwe, Spain, Portugal, Greece, Israel, Syria, Jordan, Lebanon, Iraq, India, England, Malta, Turkey, Italy, Morocco, Sardinia, German, Ukraine, Albania, Denmark, Sweden, Finland, Croatia.

Distribution in Egypt: Lower & Upper Egypt, Western Desert, Eastern Desert, Coastal Stripe, Sinai, Fayoum.

Type locality: Mauritius, Reunion, Madagascar.

Syntype: BMNH, MNHN (Not found).

Tribe 2: Caradrinini Boisduval, 1840

2. *Caradrina* Ochsheimer, 1816

4. *Caradrina alfierii* (Boursin, 1937)

Elpharia alfierii Boursin, 1937.

Common name: Unknown.

Wingspan: Unknown.

Host records: Unknown.

Geographical Records: Saudi Arabia, Iran, Israel, Palestine, Jordan.

Distribution in Egypt: Sinai.

Type locality: Egypt (Sinai, Arad) (Sinai, Gebel Katherin).

Holotype: Holotype ♀, coll. Alfieri, Cairo.

Paratype: Coll. Alfierii and (BMNH, London).

5. *Caradrina aspersa* Rambur, 1834

Caradrina aspersa Rambur, 1834.

Caradrina anceps Herrich-Schaffer, [1849].

Caradrina aspersa ab. *alfacaria* Ribbe, 1912.

Caradrina (*Athetis*) *culoti* Turati, 1913.

Caradrina (*Athetis*) *predotae* Schawerda, 1931.

Caradrina aspersa buddenbrocki Gross, 1956.

Caradrina (*Platyperigea*) *aspersa proverai* Berio, 1977.

Common name: Unknown.

Wingspan: 27-32 mm.

Host records: Polyphageous.

Geographical Records: Algeria, Morocco, Iran, France, Turkmenistan, Spain, Palestine, Israel, Cyprus, Lebanon, Turkey, Ukraine, Austria, Syria, Armenia, Germany.

Distribution in Egypt: Lower Egypt, Western Desert.

Type locality: Marseille.

Type: Spain (LM, Karlsruhe) [MNHN, Paris].

6. *Caradrina atriluna* Guenée, 1852

Caradrina atriluna Guenée, 1952.

Caradrina indicata Walker, [1857].

Caradrina mediterraneae Bethune-Baker, 1894.

Caradrina distincta Staudinger, 1897.

Athetis atriluna Warren, 1913.

Athetis angularis Turati, 1935.

Common name: Unknown.

Wingspan: 28-34mm.

Host records: *Pistacia atlantica* trees, *Prosopis farcta*

Geographical Records: Libya, Ethiopia, Israel, Saudi Arabia, Iran, Turkey, Ethiopia, Jordan, Lebanon, India, Eritrea, Kenya, South Africa, Zambia, Zimbabwe, Saudi Arabia, Yemen, Palestine, Algeria, Oman, Morocco, California, Saint Helenas.

Distribution in Egypt: Lower Egypt, Costal Stripe, Western Desert, Sinai.

Type locality: Ethiopia, Abyssinia.

Lectotype: Male, (MNHN, Paris).

7. *Caradrina bodenheimeri* Amsel, 1935

Caradrina bodenheimeri Amsel, 1935.

Athetis bodenheimeri chlorotica Boursin, 1936.

Elaphria bodenheimeri plesiarcha Boursin, 1937.

Common name: Unknown.

Wingspan: 26-34 mm.

Host records: Calendula.

Geographical Records: Oman, Saudi Arabia, United Arab Emirates, Iran, Iraq, Afghanistan, Palestine, Turkey, Palestine, Israel, Lebanon.

Distribution in Egypt: Sinai.

Type locality: Palestine, Israel.

Type: Jerusalem, (MNHU, Berlin) Holotype ♂ and paratype ♂ & ♀.

8. *Caradrina clavipalpis* (Scopoli, 1763)

Phalaena clavipalpis Scopoli, 1763.

Phalaena grisea Hufnagel, 1766.

Noctua 4-punctata Fabricius, 1775.

Noctua quadripunctata Fabricius, 1775.

Noctua cubicularis Denis & Schiffermüller, 1775.

Noctua leucoptera Thunberg, 1791.

Caradrina pulverosa Walker, [1857].

Caradrina avicula Krulikovsky, 1909.

Athetis clavipalpis f. mauretanicus Draudt, 1934.

Common name: Pale mottled willow.

Wingspan: 26-35 mm.

Host records: *Stellaria*, *Taraxacum*, *Campanula*, *Plantago*, *Lamium*, *Rumex acetosa*

Geographical Records: Algeria, Morocco, Tunisia, Libya, Kuwait, Mauritania, Mongolia, Iraq, Iran, Turkey, Afghanistan, Pakistan, India, South Africa, Sweden, Angola, Germany, Austria, Canary Islands, Israel, Syria, Jordan, Sudan, South Africa, Mauritania, Zimbabwe, Slovenia, Cape Verde, Lebanon.

Distribution in Egypt: Costal Stripe.

Type locality: Slovenia, Carniola.

Syntype: Male, (MNHN, Paris).

9. *Caradrina flava* Oberthür, 1876

Caradrina flava Oberthür, 1876.

Athetic approximans Rothschild, 1914.

Common name: Unknown.

Wingspan: 29-37 mm.

Geographical Records: Algeria, Morocco, Libya, Canary Islands, Mauretania, Jordan, Iran, Iraq, Israel, Spain, Turkey, Malta, Portugal, Tunisia, United Arab Emirates, Saudi Arabia, Cape Verde, Chad, Mauritania, Niger.

Distribution in Egypt: Coastal Stripe, Sinai.

Type locality: Algeria, Tlemcen, Collo.

Type: Male, (BMNH, London).

10. *Caradrina ingrata* Staudinger, 1897

Caradrina ingrata Staudinger, 1897.

Common name: Unknown.

Wingspan: 29-33 mm.

Host records: *Salix* sp., *Taraxacum*.

Geographical Records: Mauretania, Algeria, Spain, S. France, Crete, Lebanon, Israel, Saudi Arabia, Iraq, Germany, Bahrain, Syria, Morocco, Jordan, Syria, Iran, Spain, Portugal, Austria, Turkey, Saudi Arabia, United Arab Emirates, Oman, Libya, Tunisia.

Distribution in Egypt: Coastal Stripe, Lower Egypt, Sinai.

Type locality: as *infusca* : Spain.

as *ingrata* : Lebanon, Israel.

Type: as *ingrata* (MNHU, Berlin).

11. *Caradrina katherina* Wiltshire, 1947

Caradrina (Paradrina) katherina Wiltshire, 1947.

Caradrina katherina dissimulata Wiltshire, 1982.

Common name: Unknown.

Wingspan: Unknown.

Host records: Unknown.

Geographical Records: Saudi Arabia, Yemen.

Distribution in Egypt: Sinai.

Type locality: Egypt, Sinai, Gebel Kathrin.

Holotype: Male, Coll. Alfieri; Allotype, female, Coll. Alfieri.

Paratype: Coll. Alfieri, & (BMNH, London).

12. *Caradrina melanurina* (Staudinger, 1901)

Agrotis melanura var. *melanurina* Staudinger, 1901.

Common name: Unknown.

Wingspan: Unknown.

Host records: *Anabasis* sp., different low plants.

Geographical Records: Jordan, Israel, Saudi Arabia, Syria, Lebanon, Palestine.

Distribution in Egypt: Lower Egypt, Sinai.

Type locality: Palestine.

Type species: Lectotype ♂, designated by Hacker (2004a), genitalia slide Hacker

12949 ♂, ZMHB; Paralectotypes 1 ♂, 3 ♀, genitalia slide Hacker 12950 ♀, ZMHB.

13. *Caradrina oberthuri* (Rothschild, 1913)

Athetis oberthuri Rothschild, 1913.

Elaphria (Hymenodrina) oberthuri persica Boursin, 1942.

Caradrina (Athetis) apicimaculata Rebel, 1947.

Common name: Unknown.

Wingspan: 28-33 mm.

Host records: low plants.

Geographical Records: Iran, Sudan, North Africa, Israel, Syria., Algeria, Sudan, Oman, Saudi Arabia, United Arab Emirates, Morocco, Spain.

Distribution in Egypt: Gebel Elba, Sinai.

Type locality: Algeria, Oued Mya.

Syntype: Central Western Sahara” South Oued Mya, 1 male & 3 females: (BMNH, London).

14. *Caradrina scotoptera* (Püngeler, 1914)

Athetis scotoptera Püngeler, 1914.

Common name: Unknown.

Wingspan: Unknown.

Host records: low plants.

Geographical Records: Israel, Iran, Turkey.

Distribution in Egypt: Sinai, Minia, Suez and Cairo.

Type locality: Palestine, Israel (Jerusalem).

Type: (MNHU, Berlin).

15. *Caradrina selini* Boisduval, 1840

Caradrina selini Boisduval, 1840.

Noctua (Charadrina) milleri Schultz, 1862.

Caradrina selinoides Bellier, 1862.

Caradrina jurrassica Riggenbach-Stehlin, 1876.

Caradrina selini var. *mairei* Draudt, 1909.

Athetis selini f. *puengeleri* Draudt, 1934.

Elaphria (Paradrina) forsteri Boursin, 1939.

Elaphria (Paradrina) forsteri Boursin, 1940.

Caradrina (Paradrina) selini djebli Rungs, 1972.

Common name: Sandflur or Grått lövfly.

Wingspan: 25-32 mm

Host records: *Rumex*, *Plantago*, *Hieracium*, *Taraxacum*

Geographical Records: Corsica, Sardinia, Italy, Germany, Crete, Switzerland, Hungary, Algeria, Morocco, Malta, N. Iran, Israel, Jordan, Switzerland.

Distribution in Egypt: Sinai, Costal Stripe.

Type locality: Switzerland, Valesia.

Type: Switzerland, Valesia.

16. *Caradrina soudanensis* (Hampson, 1918)

Athetis soudanensis Hampson, 1918.

Common name: Unknown.

Wingspan: 28-34 mm

Host records: Unknown.

Geographical Records: Sudan, Oman, Saudi Arabia, Yemen, United Arab Emirates, Iran Jordan, Morocco.

Distribution in Egypt: Sinai, Gebel Elba.

Type locality: Sudan, Kut Sudan.

Holotype: Female (BMNH, London).

3. *Catamecia* Staudinger, 1897

17. *Catamecia minima* (Swinhoe, 1889)

Apamea minima Swinhoe, 1889.

Common name: Unknown.

Wingspan: 20-25 mm.

Host records: Unknown.

Geographical Records: India, Jordan, Algeria, Libya, Morocco, Sudan, Mauretania, Israel, Bahrain, Saudi Arabia, Yemen, Iran, Kuwait, United Arab Emirates, Tunisia , Oman, Palestine

Distribution in Egypt: Sinai.

Type locality: India, Hyderabad & Kipra.

Syntype: Kipra, Female (BMNH, London).

4. *Hoplodrina* Boursin, 1937

18. *Hoplodrina ambigua* (Denis & Schiffermüller, 1775)

Noctua ambigua Denis & Schiffermüller, 1775.

Noctua plantaginis Hübner,[1813].

Orthosia uniformis Swinhoe, 1885.

Caradrina ambigua var. *hilaris* Staudinger, 1901.

Common name: Vine's Rustic.

Wingspan: 29 – 34mm.

Host records: *Lamium*, *Urtica*, *Verbascum*, *Stellaria*, *Primula*, Rumax.

Geographical Records: Afghanistan, Algeria, Austria, Belgium, Denmark, England, Germany, Iraq, Iran, Irland, Israel, Italy, Jordan, Lebanon, Libya, Malta, Pakistan, Tajikistan, Turkestan, Morocco, Syria, Spain, Portugal, Switzerland, Netherland, Poland.

Distribution in Egypt: Lower Egypt.

Type locality: Austria, Vienna.

Type: Austria, Vienna, Type destroyed.

5. *Pseudoligia* Staudinger, 1901

19. *Pseudoligia similaria* (Ménétriés, 1849)

Ligia similaria Ménétriés, 1849.

Common name: Unknown.

Wingspan: Unknown.

Host records: Unknown.

Geographical Records: Uzbekistan, Bokhara (USSR).

Distribution in Egypt: Sinai.

Type locality: Bokhara.

Type specimen: Holotype – female [U.S.S.R.]: [Uzbekistan] Bokhara, (? Depository).

6. *Scythocentropus* Speiser, 1902

20. *Scythocentropus inquinata* (Mabille, 1888)

Hadena inquinata Mabille, 1888.

Scythocentropus ferrantei Draudt, 1911.

Scythocentropus mercedes Pinker, 1974.

Common name: Unknown.

Wingspan: 25- 32 mm

Host records: Unknown.

Geographical Records: Tunisia, Canary Islands, Malta, Morocco, Algeria, Iraq, Iran, Libya, Saudi Arabia, U.A. Emirate, Turkey, Pakistan, India, Israel.

Distribution in Egypt: Lower Egypt, Sinai.

Type locality: Gabes (Tunisia).

Cairo (Egypt): as *Centropodia ferrantei* (Draudt, 1911).

Holotype: Tunisia, Gabes, MNHN, Paris.

Tribe 3: Cosmiini Guenée, 1852**7. *Atethmia* Hübner, 1821****21. *Atethmia ambusta* (Denis & Schiffermüller, 1775)**

Noctua ambusta Denis & Schiffermüller, 1775.

Common name: Unknown.

Wingspan: 27-31 mm.

Host records: Sloe, fruit trees, *Prunus* sp., *Pyrus*.

Geographical Records: Spain, Austria, Ukraine, Germany, Turkey, Italy, Bulgaria, Israel.

Distribution in Egypt: Egypt.

Type locality: Austria.

Type: Austria, Vienna.

22. *Atethmia centrago* (Haworth, 1809)

Noctua xerampelina Hübner, 1809.

Common name: Centre-barred sawfly.

Wingspan: 32-36mm.

Host records: ash (*Fraxinus*), Elm.

Geographical Records: England, Turkey, Iran, Syria, Palestine, Israel, Lebanon, Cyprus, Jordan, Armenia, Romania, Spain, Portugal, Italy, England, Bulgaria.

Distribution in Egypt: Sinai.

Type locality: England.

Type: England.

Tribe 4: Phlogophorini Hampson, 1918**8. *Euplexia* Stephens, 1829****23. *Euplexia lucipara* (Linnaeus, 1758)**

Phalaena lucipara Linnaeus, 1758.

Phalaena dubia Hufnagel, 1766.

Euplexia lucipara brittanica Turner, 1943.

Euplexia lucipara britannica Turner, 1943.

Euplexia lucipara ab. ascripta Gozmány, 1947.

Common name: Small Angle Shades.

Wingspan: 27-32 mm.

Host records: *Quercus ithaburensis*, *Acer palmate*, *Rubus tomentosus*, *Rosa canina*, *Rumex cyprius*, *Urtica pilulifera*, several *Trifolium* species and *Pisum fulvum*.

Geographical Records: Canarias Island, , Spain, Portugal, Belgium, Romania, Ukraine, Lithuania, Ostrich, Italy, Germany, England, Malta, Iran, Turkey, Turkmenistan, , Ireland, Croatia, Israel, Lebanon, Syria, Cyprus, Azerbaijan.

Distribution in Egypt: Sinai.

Type locality: Europe.

Type: Europe, LS, London.

9. *Phlogophora Treitschke, 1825*

24. *Phlogophora meticulosa* (Linnaeus, 1758)

Phalaena meticulosa Linnaeus, 1758.

Common name: Angle Shades.

Wingspan: 36 - 48 mm.

Host records: lettuces, *Rubus*, *Epilobium*, *Impatiens*, *Urtica*, *Stachys*, *Lamium*, *Epilobium*, *Actaea*, *Atropa*, *Aconitum*, *Aquilegia*, *Salix* spp., *Solanum* spp.

Geographical Records: Algeria, Morocco, Spain, Britain, Portugal, Armenia, Ireland, Italy, Turkey, Japan, Belgium, Austria, France, Germany.

Distribution in Egypt: Sinai.

Type locality: Europe.

Type: Europe (L.S. London).

Syntype: Algeria, Alma, (NM, Vienna) as *E. leonhardi*.

Tribe 5: Apameini Guenée, 1841

Subtribe: Apameina Boisduval, 1828

10. *Luperina Boisduval, 1829*

25. *Luperina diversa* (Staudinger, 1892)

Apamea dumerilii var. *diversa* Staudinger, 1892.

Common name: Unknown.

Wingspan: about 29 mm.

Host records: Unknown.

Geographical Records: Turkey, German, Armenia, Cyprus, Iran, Iraq, Lebanon.

Distribution in Egypt: Sinai.

Type locality: Turkey, Amasya.

Syntype: number not stated, "Grosser Anzahl", ZMHB.

26. *Luperina grzimeki* Hacker, 1989

Luperina grzimeki Hacker, 1989.

Common name: Unknown.

Wing span: about 35 mm.

Host records: Unknown.

Geographical Records: Turkey.

Distribution in Egypt: Costal Stripe.

Type locality: Egypt, Al-Agami.

Holotype: Male in Coll. Zoologische Staassammlung München.

11. *Nonagria Ochsenheimer, 1816*

27. *Nonagria typhae* (Thunberg, 1784)

Noctua typhae Thunberg, 1784.

Common name: Butrush Wainscot.

Wing span: 40-54 mm.

Host records: *Typha latifolia*, *T. angustifolia*, *Scirpus*.

Geographical Records: Portugal, Spain, Sardinia, Ireland, England, Germany, Austria, Italy, Denmark, Greece, Algeria, Libya, Morocco, Tunisia, W. Siberia, Ukraine, Turkey, Romania, Lebanon, Saudi Arabia, Iraq, Iran, Afghanistan, Jordan, Israel, Cyprus, Sweden.

Distribution in Egypt: Lower Egypt.

Type locality: Sweden.

12. *Sidemia* Staudinger, 1892

28. *Sidemia beduina* Wiltshire, 1948

Pseudopseustis beduina Wiltshire, 1948.

Common name: Unknown.

Wing span: Unknown.

Host records: Unknown.

Geographical Records: Saudi Arabia.

Distribution in Egypt: Sinai (Arish).

Type locality: Egypt, North Sinai.

Holotype: (USNM, Washington) & BMNH.

Subtribe **Sesamiina** Fibiger & Goldstein, 2005

13. *Sesamia* Guenée in Boisduval & Guenée, 1852

29. *Sesamia cretica* Lederer, 1857

Sesamia cretica Lederer, 1857.

Nonagria cyrnaea Mabilie, 1866.

Sesamia fraterna Moore, 1882.

Sesamia cretica var. *striata* Staudinger, 1888.

Sesamia pecki Tams, 1938.

Common name: durra stem borer, pink corn borer.

Wingspan: 30-40 mm.

Host records: sorghum, maize, sugarcane, oats, wheat, rice, Graminae, Poaceae

Geographical Records: India, Arabian Peninsula, eastern Mediterranean countries, North Africa, Turkey, Kenya, East Africa, Spain, Greece, France, Italy, Somalia, Sudan, Israel, Jordan, Ethiopia, Somalia, Iran, Iraq, Lesotho, South Africa.

Distribution in Egypt: Lower & Upper Egypt, Western Desert, Eastern Desert, Coastal Stripe, Fayoum, Sinai.

Type locality: Egypt, North Sinai.

Type: MNHU, Berlin.

30. *Sesamia nonagrioides* (Lefebvre, 1827)

Cossus nonagrioides Lefebvre, 1827.

Nonagria hesperica Rambur, 1837.

Nonagria sacchari Wollaston, 1858.

Tapinostola gracilis Rebelr, 1899.

Sesamia vutera f. *ciccarelli* Mariani, 1934.

Common name: Maize stem borer. Mediterranean corn stalk borer.

Wingspan: 30-40 mm .

Host records: *Zea mays* (Poaceae), aubergines, *Gladiolus hortulans*, sugarcane, *Typha latifolia* .

Geographical Records: western parts of southern Europe, Turkey, North Africa, East Africa, and parts of West Africa, Iran, Italy, Spain, France, Greece, Israel, Somalia, Mauretania, Sudan, Cape Verde, Saudi Arabia, Yemen South Africa.

Distribution in Egypt: Lower & Upper Egypt, Western Desert, Eastern Desert, Coastal Stripe, Gebel Elba, Fayoum, Sinai.

Type locality: Italy: Sicily, Palermo.

31. *Sesamia wiltshirei* Rungs, 1963

Sesamia wiltshirei Rungs, 1963.

Common name: Unknown.

Wingspan: about 21 mm.

Host records: *Zea mays* (Poaceae), and other cereal crops.

Geographical Records: Egypt.

Distribution in Egypt: Lower & Upper Egypt, Eastern Desert, Fayoum, Sinai.

Type locality: Egypt, Ismailia.

Holotype: Ismailia, (MNHN, Paris).

Tribe 6: Xylenini Guenée, 1837

14. *Aporophylla* Guenée, 1841

32. *Aporophylla nigra* (Haworth, 1809)

Noctua nigra Haworth, 1809.

Noctua nigricans Hübner, 1813.

Agrotis aethiops Treitschke, 1825.

Aporophylla nigra var. *seileri* Fuchs, 1901.

Aporophylla australis var. *cinerea* Staudinger, 1901.

Aporophylla[sic] cyrenaica Turati, 1922.

Common name: Black Rustic.

Wingspan: 36 – 42 mm.

Host records: Alfalfa, grasses, *Rumex*, and *Calluna vulgaris*, *Genista*, *Oxalis*, *Sarothamnus*.

Geographical Records: England, Germany, Spain, Libya, Europe, Israel, Turkey, Morocco, Tunisia, Lebanon, Cyprus, Iraq, Iran.

Distribution in Egypt: Lower Egypt, Sinai.

Type: England.

15. *Boursinia* Brand, 1938

33. *Boursinia discordans* (Boursin, 1940)

Margelana discordans Boursin, 1940.

Common name: Unknown.

Wingspan: 32-37mm

Host records: *Retama raetam*

Geographical Records: Libya, Turkey, Israel, Palestine, Jordan, Saudi Arabia.

Distribution in Egypt: Abu Matamir (Beheira, Delta) and Sinai.

Type locality: Palestine (Jerusalem), Israel.

Holotype: (USNM, Washington) & BMNH.

Syntype: Jerusalem, (MNHN, Berlin).

34. *Boursinia lithoxylea* (Bang-Haas, 1912)

Hypomecia lithoxylea Bang-Haas, 1912.

Common name: Unknown.

Wingspan: 34-37 mm.

Host records: *Retama raetam*

Geographical Records: North Africa, Israel, Palestine, Jordan.

Distribution in Egypt: Sinai.
Type locality: Algeria, Batna near Algiers.
Syntype: Syntypes 3♂, ZMHB.

16. *Conistra* Hubner, [1821]

35. *Conistra staudingeri* (Graslin, 1863)

Dasycampa staudingeri Graslin, 1863.

Cerastis rubigo Rambur, 1871.

Orrhodia staudingeri Austaut, 1880.

Hypomecia lithoxylea Bang-Haas, 1912.

Common name: Unknown.

Wingspan: about 33mm.

Host records: Unknown.

Geographical Records: Spain, France, UK, Germany.

Distribution in Egypt: Egypt.

Type locality: E. Pyrenees.

17. *Mniotype* Franclemont, 1941

36. *Mniotype compitalis* (Draudt, 1909)

Eremobia compitalis Draudt, 1909.

Crino leptitanus Turati, 1924.

Crino letheus Turati, 1924.

Common name: Unknown.

Wingspan: Unknown.

Host records: Unknown.

Geographical Records: Libya, Cirenaica, Israel.

Distribution in Egypt: Costal stripe (Alex.).

Type locality: Egypt, Alexandria.

Syntype: 2 males, (destroyed).

18. *Polymixis* Hübner, [1820]

37. *Polymixis aurora* (Turati, 1924)

Pseudopolia aurora Turati, 1924.

Antitype glaisi Lucas, 1932.

Eummichtis aurora commixta Rungs, 1942.

Eumichtis aurora aegyptiaca Wiltshire, 1947.

Pseudopolia aurora Turati, 1924.

Common name: Unknown.

Wingspan: 40 – 45 mm.

Host records: *Zygophyllum* sp.

Geographical Records: Libya, Tunisia, Morocco, Cyrenaica, Israel.

Distribution in Egypt: Lower Egypt (Cairo, W. Digla), Sinai, Taba as aurora.

Type locality: Cairo, W. Digla.

38. *Polymixis juditha* (Staudinger, 1897)

Polia juditha, Staudinger, 1897.

Common name: Unknown.

Wingspan: about 44 mm.

Host records: Unknown.

Geographical Records: Jordan, Israel, Saudi Arabia.

Distribution in Egypt: Sinai, St. Katherin.

Type locality: Palestina, Jordantal.

Holotype: Jordan, Jordanthal, Female, (MNHU, Berlin).

39. *Polymixis lea* (Staudinger, 1897)

Eumichtis lea Staudinger, 1897.

Polia lea Staudinger, 1897.

Common name: Unknown.

Wing span: 29 – 32 mm.

Host records: Unknown.

Geographical Records: Jordan, Palestine, Israel.

Distribution in Egypt: Sinai.

Type locality: Palestina, Jordantal.

Type specimen: Lectotype ♂, designated by hacker (2001: 216), ZMHB;

Paralectotype 2♂, 1♀; ZMHB.

40. *Polymixis variable* (Stertz, 1915)

Dasystemum variable Stertz, 1915.

Epunda concolor Oberthür, 1918.

Antitype rosea Rothschild, 1920.

Common name: Unknown.

Wing span: about 34 mm.

Host records: Unknown.

Geographical Records: Algeria.

Distribution in Egypt: Egypt.

Type locality: Algeria, Guelt-es-Stel.

Synotype: Algeria, Guelt-es-stel.; as concolor: Algeria, Lambese, BMNH, Lond.

19. *Pseudamathes* Hampson, 1910

41. *Pseudamathes volloni* (Lucas, 1907)e

Amathes volloni, Lucas, 1907.

Common name: Unknown.

Wing span: about 36mm.

Host plant: Unknown

Geographical distribution: Tunisia, Algeria, Morocco, Libya.

Distribution in Egypt: Helwan.

Type locality: Tunisia (Kebili).

Syntype: Tunisia, Southern (Kebili); (MNHN, Paris).

20. *Xanthia* Ochseneheimer, 1816

42. *Xanthia (Cirrha) ocellaries* (Borkhausen, 1792)

Phalaena (Noctua) ocellaries Borkhausen, 1792.

Xanthia ocellaries var. *lineago* Guenée, 1852.

Xanthia lineago f. *rubra* Bang-Haas, 1912.

Common name: Pale-lemon Sallow.

Wing span: 33 – 40 mm.

Host plant: *Populus* sp., *Rumex*, *Salix* and Low plants.

Geographical distribution: Morocco, Portugal, Soain, England, Belgium, Netherlands, Germany, Ostrich, Italy, Denmark, Sweden, Finland, Romania, Turkey, Ukraine, Korea, China.

Distribution in Egypt: (Helwan) Lower Egypt.

Type locality: Italy.

21. *Xylena Ochsenheimer*, 1816

43. *Xylena infusa* Walker, 1870

Xylina infusa Walker, 1870.

Common name: Unknown.

Wingspan: Unknown.

Host records: Unknown.

Geographical Records: Egypt.

Distribution in Egypt: Upper Egypt.

Type locality: [Egypt] Hor Tamanib.

44. *Xylena lefebvrei* Bugnion, 1837

Xylina lefebvrei Bugnion, 1837.

Common name: Unknown.

Wingspan: Unknown.

Host records: Unknown.

Geographical Records: Egypt.

Distribution in Egypt: Gebel Elba.

Type locality: [Egypt].

Subfamily Xyleninae Guenée, 1837

Plate I

Tribe Prodeniini Forbes, 1954



Spodoptera ciliata (Guenée, 1832)



Spodoptera cingulata (Fabricius, 1808)



Spodoptera litorea (Boisduval, 1833)

Tribe Caradrinini Boisduval, 1840



Caradrina agitata (Boisduval, 1837)



Caradrina asperata (Rottschil, 1834)



Caradrina arctifera (Guenée, 1832)



Caradrina hualankowani (Arnold, 1911)



Caradrina clavigera (Geopler, 1762)



Caradrina fava (Olivier, 1816)



Caradrina ingrata (Staudinger, 1897)



Caradrina melanaria (Staudinger, 1901)



Caradrina sylvatica (Rottschil, 1913)



Caradrina scyptaria (Püngler, 1914)



Caradrina setina (Boisduval, 1840)



Caradrina sodanensis (Hågenson, 1918)



Elysiadrina arabica (Dupon & Schiffenbauer, 1772)



Elysiadrina arabica (Mabille, 1888)

Plate II

Tribe Cosmiini Guenée, 1852



Aethmia anthracia (Denis & Schiffermüller, 1775)



Aethmia esstrago (Haworth, 1809)

Tribe Phlogophorini Hampson, 1918



Euplexia lucipora (Linnaeus, 1758)



Phlogophora metaculva (Linnaeus, 1758)

Tribe Apameini Guenée, 1841



Luperina diversa (Stüdingen, 1892)



Nomagra typhae (Thunberg, 1784)



Sesamia crenata Lederer, 1839



Sesamia nonagrioides (Lefebvre, 1827)



Sesamia wilbuhnei Rungs, 1963

Plate III

Tribe Xylenini Guenée, 1837



Apotophtyla nigra (Haworth, 1809)



Apotophtyla nigra (Haworth, 1809)



Boursinia discolorans (Bourain, 1940)



Boursinia liboxyloa (Bang-Haas, 1912)



Matorpe coepitatis (Draudt, 1909)



Polymixis aurora (Turati, 1924)



Polymixis julaha (Staudinger, 1898)



Polymixis leo (Staudinger, 1897)



Polymixis variabilis (Stett, 1915)



Xanthia ocellaris (Borkhausen, 1792)



Coscibu (Staudinger) Gradie

REFERENCES

- Abdel Fattah M. Amer (2005): Ecological and Taxonomical studies of some Lepidoptera from Egypt with special References to family Noctuidae. Ph.D. Thesis, Department of Entomology, Faculty of Science, Cairo University.
- Abdel Fattah M. Amer, Rizk, M. A. & Iskandar, A. K. (2006): Impact of Environment on the Diversity of Lepidopterous Insects in Three Egyptian Governorates. *CATRINA* (2009), 1(1): 81-88.
- Abdel Fattah M. Amer & El-Torkey, A. M. (2017): Revision of Higher Classification of Superfamily Noctuoidea (Lepidoptera) in Egypt. *Egyptian Academic Journal of Biological Sciences A. Entomology*, 10(1):55– 69.
- Adford, D.V. (1999): A text book of Agricultural Entomology, Part I: 52-64.
5. Adolf Andres (1910a): Observations sur quelques Lépidoptères nouveau ou peu connus d’Egypte. *Bulletin de la Société Entomologique d’Egypt*, pp. 21-23
- Adolf Andres (1910b): La phase d’engourdissement ou Hibernation observée en Egypte, enhiver ou en été, chez quelques Lépidoptères. *Bulletin de la Société Entomologique d’Egypt*, pp. 89-96
- Alberto Zilli (2000): African-Arabian and Asian Pacific "*Mocisfrugalis*": Two distinct species (Lepidoptera: Noctuidae). *Eur. J. Entomol.* 97: 419-426.
- Boursin Ch. (1937). Beiträge zur Kenntnis der "Agrotidae–Trifinae" XX. 1. Morphologische und systematische Studie über die Gattung *Athetis* Hb. (*Caradrina auctorum*). - *Entomologische Rundschau* 54:364–368, 388–391, 429–432, 437–440.
- Draudt, M. (1910): Liste des Lépidoptères recueillis en Egypt par M.G. Ferrante. *Bulletin de la Société Entomologique d’Egypt*, pp. 96-97
- Draudt, M. (1911): Ein neue Noctuide aus Egypten. *Bulletin de la Société Entomologique d’Egypt*, pp. 66-69
- Fauna Europaea Web Service (2006) Fauna Europaea version 1.5
- Gall, L. F. (1990): Evolutionary Ecology of Sympatric *Catocala* Moths (Lepidoptera: Noctuidae) III. Experiments on Female Oviposition Preference. *Journal of Research on the Lepidoptera.* 29(3):217-233, 1990(91).
- Gall, L. F. & Hawks, D. C. (1990): Systematic of Moth in the Genus *Catocala* (Lepidoptera: Noctuidae). 1. Type Material in Strecker Collection, with Lectotype Designations. *Fieldiana, Zoology*, new series, No. 59.
- Gall, L. F. & Hawks, D. C. (2010): Systematics of moths in the genus *Catocala* (Lepidoptera, Erebiidae) IV. Nomenclatorial stabilization of the Nearctic fauna, with a revised synonymic check list. *ZooKeys* 39: 37–83.
- Hacker H. H. (2001). Fauna of the Nolidae and Noctuidae of the Levante with descriptions and taxonomic notes (Lepidoptera, Noctuoidea). Appendix: Revision genus *Clytie* Hübner, [1823]. - *Esperiana* 8:7–398,

- pls. 1–22.
- Hacker H. H. (2004). Revision of the genus *Caradrina* Ochsenheimer, 1816, with notes on other genera of the triubus *Caradrini* (Lepidoptera, Noctuidae). - *Esperiana* 10:7–690, pls. 1–27.
- Hacker H. H. (2016). Systematic and illustrated catalogue of the *Macroheterocera* and *Cossoidea* Leach, [1815], *Zygaenoidea* Latreille, 1809, *Thyridoidea* Herrich-Schäffer, 1846 and *Hyblaeoidea* Hampson, 1903 of the Arabian Peninsula, with a survey of their distribution (Lepid.). - *Esperiana* 20(1):1–742; (2): 1–430.
- Hacker H. H., Schreier H.-P. & Aistleitner E. (2010). Noctuidae of Cape Verde Islands (Lepidoptera, Noctuidae). - *Esperiana Memoir* 5:7–96.
- Haggis M. J. (1986): Distribution of the African armyworm, *Spodoptera exempta* (Walker) (Lepidoptera: Noctuidae), and the frequency of larval outbreaks in Africa and Arabia. - *Bulletin of Entomological Research* 76:151–170.
- Hampson G. F. (1909). Catalogue of the Lepidoptera Phalaenae in the collection of the British Museum (Nat. Hist.) VIII. Subfam. *Acronyctinae* (continued). 8:i–xiv, 1–583.
- Hermann Hacker (1986): Fünfter Beitrag zur systematischen Erfassung der Noctuidae der Türkei. Beschreibung neuer Taxa und faunistisch bemerkenswerte Funde aus den Aufsammlungen von WOLF und HACKER aus dem Jahr 1985 sowie Ergänzungen zu früheren Arbeiten (Lepidoptera). *Atalanta* (Dezember, 1986), 17: 27-83, Würzburg, ISSN 0171-0079
- Holloway, J. D. & Miller, S. E. (2003): The composition, generic placement and host-group in the *Parallelia* generic complex (Lepidoptera: Noctuidae, *Catocalinae*). *Invertebrate Systematics*, 2003, 17, 1110128.
- Innes Bey (1909): Résumé de travaux relative en partie a la faune entomologique d’Egypte. *Bulletin de la Société Etomologique d’Egypt*, pp. 10-16
- Joannis, P.J. (1909): Nouveau Lèpidoptères d’Egypte. *Bulletin de la Société Etomologique d’Egypt*, pp. 161-170.
- Karrom, M. A. (1976): Revision of some Genera of the Family Noctuidae (Lepidoptera) in A.R. Egypt. PhD. Thesis, Dep. Ent., Fac. Sci., Ain Shams University.
- Kocak, A. O. & Muhabbet K. (2007a): Synonymous List of the Lepidoptera recorded in Stoutpansberg Mountains (Northern South Africa). *Cesa Publication on Africa Lepidoptera* nr.16.
- Kocak, A. O. & Muhabbet K. (2007b): Report of the Temporary Results of the Faunal Lists of African States based upon the Databank of the Cesa. 12 Sudan. *Cesa Publication on Africa Lepidoptera* nr.14.
- Kravchenko V. D., Müller, G., Orlova, O. B. & Septyarskaya, V. N. (2004): *Catocalinae* (Lepidoptera: Noctuidae) of Israel. *Russian Entomol. J.* 13(3): 175-186.
- Kravchenko V. D., Fibiger, M., Hausmann, A. & Müller, G. C. (2007): The Lepidoptera of Israel, V. 2, Noctuidae, Geo Milev str. 13a, 1111 Sofia,

- Bulgaria, May 1997, 320p.
- Kravchenko, V. D., Fibiger, M., Mooser, J., Junnila, A. & Müller, G. C. (2008a): The Israeli species of the subtribe Xylenina (Lepidoptera: Noctuidae, Xyleninae); SHILAP Revta. lepid., 36 (141), marzo 2008: 9-17.
- Kravchenko, V. D., Fibiger, M., Mooser, J., Junnila, A. & Müller, G. C. (2008b): The tribes Prodeniini and Caradrinini of Israel (Lepidoptera: Noctuidae, Xyleninae); SHILAP Revta. lepid., 36 (141), marzo 2008: 133-143.
- Lafontaine, D. J. & Schmidt, B. C. (2010): Annotated check list of the Noctuoidea (Insecta-Lepidoptera) of North America, north of Mexico. Zookeys 40: 1-239.
- Lehmann L. & Saldaitis A. (2006). Beitrag zur Nachtfalter-Fauna des Sinai (Lepidoptera). - Esperiana 12:205–209, pls. 23, 24.
- Muhabbet K. & Kocak A. O. (2007): South African Noctuidae species in the Fauna of Turkey (Lepidoptera). Cesa Publication on Africa Lepidoptera nr.1.
35. Muller G. C., Kravchenko V.D., Witt T.J., Junnila, A., Mooser, J., Saldaitis, A., Reshöft, K., Ivinskis, P., Zahiri, R. & Speidel, W. (2008): New underwing Taxa of the section of *CatocalaLesbia* Christoph, 1887 (Lepidoptera, Noctuidae). Acta Zoologica Lituanica, 2008, V. 18, No. 1, 30-49.
- Niels P. K., Scoble, M. J. & Karsholt O. (2007): Lepidoptera phylogeny and systematics: the state of inventorying moth and butterfly diversity. *Zootaxa* 1668: 699–747 (2007).
- Oshaibah, A. A. (1981): Classification of some moths of family Noctuidae-Lepidoptera in Egypt. Ph.D. Thesis, Ent. Zool. Dept., Gac.Sci., Al-Azhar University.
- Poole, R. W. (1989): Lepidopterorum Catalogus. Sys, Entom. Lab., USDA.
- Ronkay, Yela & Hreblay, (2001). Noctuidae Europaeae 5 (Hadeninae II) *Noct. Eur.* 5
- Rungs Ch. (1963). Deux *Sesamia* nouvelles d'Afrique nord-equatoriale (Lep. Noctuidae). - Al Awamia 6:69–72.
- Rebel H. (1909). In: Kneucker, Zoologische Ergebnisse zweier in den Jahren 1902 und 1904 durch die Sinaihalbinsel unternommener botanischer Studienreise nebst zoologischen Beobachtungen aus Ägypten, Palästina und Syrien (Lepidoptera). - Verhandlungen des naturwissenschaftlichen Vereins Karlsruhe 21:129–137.
- Scoble, M.J. (1995): The Lepidoptera, Form, Function and Diversity. Published in United State by Oxford University Press. New York.
- Staudinger, O. (1898): Neue Lepidopteren aus Palaestina. — Deutsche Entomologische Zeitschrift *Iris* 10 (2): 271-319, pl. IV
- Storey, G., B.A., F.E.S. (1914): Notes on some Egyptian Lepidoptera. Bulletin de la Société Etomologique d’Egypt, pp. 73-75
- Storey, G., B.A., F.E.S. (1916): List of Egyptian insects in the Collection of the Ministry of Agriculture. Cairo, Government Press, 52pp.
- Turati, E. (1924): Spedizione lepidotterologica in Cirenaica 1921 - 1922. — Atti della Società Italiana di Scienze Naturali 63: 21-191, pl. I-IV. Pavia

- Wiltshire, E.P. (1947): Middle East Lepidoptera, VII: New species and forms from Egypt and Arabia. - Bulletin of the Society Fouad I Entomology 31(1):4–11.
- Wiltshire, E.P. (1948a): The Lepidoptera of the Kingdom of Egypt, part 1. - Bulletin of the Society Fouad I Entomology 32:203–294, pls. 1–8.
- Wiltshire, E.P. (1948b): Middle East Lepidoptera XXXI. A new *Clytie* Species, a new *Metophonrhis* Subspecies, and other Noctuid Records from the Sudan. XXXII, 42–48.
- Wiltshire, E.P. (1948c): The Lepidoptera of the Kingdom Egypt, Part 1. Bull. Soc. Fouad 1er Entom. XXXII, 1948, 203–303.
- Wiltshire E. P. (1970). Some new Jaspidiinae and Catocalinae mainly from the Sudan and now in the Munich Zoological Museum. - Veröffentlichungen der zoologischen Staatssammlung München 14:112–119.
- Wiltshire E. P. (1988): Fam. Metarbelidae, Geometridae, Arctiidae, Agaristidae, Noctuidae (part 6). – In Büttiker, W. & Krupp, F. (eds.) Fauna of Saudi Arabia. - Fauna of Saudi Arabia 9:68–82.
- Zhang, B. (1994): Index of Economically Important Lepidoptera. CAB International, Cambridge University Press, UK. 599pp.
- Zilli, A.; Ronkay, L. & Fibiger, M. (2005): Noctuidae Europaeae 8: 323pp; Apameini