PHYTOPHAGOUS AND ENTOMOPHAGOUS INSECTS AND MITES OF IRAQ

by

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Short scientific notes are to be presented in an essay-type, paragraphed article without headings or subheadings except for the title and the author/s name/s and address/es. Tables and figures may appear in these notes. Acknowledgement and literature cited should follow the main body of the article in the same manner as that of the technical paper.

Theses-abstracts pertinent to the scope of the Bulletin are to be published as they appeared in the original theses.

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References: The list of literature cited inside the text, must be given in alphabetical order of authors’ names. The title of Journal should be abbreviated in accordance with the Biological Style Manual. The following style is used.


Depending upon the construction of the sentence, the citation will appear as follows - Nazir and Haitham (1965) or (Nazir and Haitham, 1965). Where there are more than two authors, the first citation should include all the names and
subsequent citation should be in the form (Nazir et al., 1965). Where more than
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as Nazir (1965a), (1965b) etc.

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yet clearly explain the tables and figures.

Photographs must be printed on glossy paper. A size of 5" x 7" is adequate.
Black and white drawings with India ink are to be made on white stock or tracing
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accompanying figures should be typed on separate sheet and numbered to correspond
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The “Iraq Natural History Museum Publication” was instituted in 1950. This
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Research Center Publication”. The publication serves as a medium for original
papers based principally upon the collection of the museum, and other papers dealing
with field and museum techniques, monographic studies, and, also suitable contribu-
tion not within the scope of the Nat. Hist. Res. Center Publ.

In 1961, a separate supplementary series “The Bulletin of the Iraq Natural
History Museum” was instituted. In 1974, this Bulletin was re-issued under a
new name, “The Bulletin of the Natural History Research Center” and is devoted to
unpublished original papers, short scientific notes and theses-abstracts in the fields of
Biology and Geology of Iraq and neighbouring countries. Volumes of the Bulletin
are issued in parts, numerically numbered 1 through 4, and are published as materials
become available.

The Publication and Bulletin are published at irregular intervals. Both series
are offered in exchange to institutions for their serial publication, and, are widely
distributed to principal biological libraries of the world.
PREFACE

The total number of species included in this publication is 1084. This figure includes 844 phytophagous species and 240 predators and parasites.

The systematic taxa are alphabetically arranged and numbered serially. The basic data on each species include its scientific name, economic importance, feeding habits and effect on host, distribution and seasonal activity of its adults. The economic importance of each species is indicated directly after its scientific name by 4, 3, 2, and 1 which stand for major, medium, minor and little economic importance respectively; while species of undetermined importance are left unmarked.

As for distribution, a reference is made to the administrative provinces of Iraq in a north-south and east-west sequence. Where distribution is unknown, certain reference on physical or vegetational regions of the country is made. Few years ago, names of some of these provinces had been changed to new ones. In the present work, however, the old names are retained; I did so because in the majority of papers dealing with the entomology of Iraq, reference is always made to the administrative provinces by their old names. The new names are unknown to the non-Iraqis.

Host plants such as field crops, vegetables and fruit trees are indicated by their common names. In case, one common name includes more than one species, it is indicated in plural such as "oak" and "poplars". The species covered by such plurals are stated by their scientific names in the Host-Plant Index. Weeds and other wild plants of different genera are, sometimes, known by a single common name. In order to avoid confusion, reference is made to them by their scientific names.

This publication reveals a number of gaps in our knowledge concerning the distribution, seasonal activity and economic importance of many species. It is hoped that future work will fill these gaps and give a more complete picture.
I wish to express my thanks to the members of the Editorial Board for Publication and Bulletin of the Nat. Hist. Res. Center, University of Baghdad for their continuous help in publishing this work; to Dr. Jalil Abul-Hab, Professor of Entomology, College of Agriculture, University of Baghdad who gave critical remarks and constructive suggestions; and to Dr. Awad H. Sa'ad of Mosul Plant protection Station, for reviewing the Homoptera and entomophagous insects. I am grateful to my colleagues at the Entomology Division, and, the College of Agriculture, University of Baghdad, who allowed me to consult their unpublished works; to Mrs. Janan Al-Muidtar of the National Herbarium of Iraq, for supplying the common and scientific names of many host plants; and to Miss Nur Al-Huda Al-Juburi for typing the manuscript.

Aziz S. Al-Ali

December, 1976
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GEOGRAPHICAL AND ECOLOGICAL NOTES

In order to clarify the picture of the country it is found necessary to give a brief account on the geography of Iraq (Fig. 1). The geographical information is based mainly on Al-Rawi's Wild Plants of Iraq (1964), Guest and Al-Rawi's Flora of Iraq (Vol. 1, 1966) and the Annual Abstracts of Statistics (1972).

Fig. 1. Map of the vegetation and physiographic regions of Iraq. Compiled from maps 1 and 15 in Guest and Al-Rawi (1986).
LOCATION:

The Republic of Iraq occupies the land of old Mesopotamia. It lies between longitudes 38°42' and 46°42' E, and latitudes 37°23' N. and 29°27' and covers an area of 438,446 Km². It is bounded on the north by the mountains of Turkey, on the west by the Syrian Desert, on the south by the Saudi Arabian Plateau, on the south-east by the Arabian Gulf, and on the east and north-east by the mountains of Iran.

The Twin Rivers of Iraq, the Tigris and the Euphrates, arise from the mountains of Turkey and flow in a south-east direction. In the lower basin of Iraq they flow through flooded areas, constituting the permanent marshes; then, they meet north of Basra to form the Shatt Al-Arab (The Arab River) which flows to the Arabian Gulf. Four tributaries run through the east of the Tigris and empty their water in it. These are the Upper Zab, south of Mosul, the Lower Zab, the Adhaim, and Diyala just south of Baghdad. The Euphrates, on the other hand, has no tributaries except the wadis (temporary watersheds) of the Western Desert.

CLIMATE:

In general, Iraq is an arid dry country with a continental climate, i.e., extremely hot in summer (except in the mountains) and very cold in winter, with great fluctuation in daily temperature and relative humidity. This has to be expected if we know that the area of the desert alone comprises about 40% (137,000 Km²) of the total area of the country.

Rainfall is seasonal, commencing from Nov to the end of April. In the mountains it is much greater than it is in the plains. In general, there is an increase in the amount of rainfall as one goes northward (Table 1).
**Table 1. Annual Rainfall**

<table>
<thead>
<tr>
<th>Station</th>
<th>Mean (mm)</th>
</tr>
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<tbody>
<tr>
<td>Basra (southern plains)</td>
<td>141</td>
</tr>
<tr>
<td>Baghdad (central plains)</td>
<td>144</td>
</tr>
<tr>
<td>Rutba (Western Desert)</td>
<td>117</td>
</tr>
<tr>
<td>Mosul (steppe)</td>
<td>363</td>
</tr>
<tr>
<td>Rawanduz (northern mountains)</td>
<td>940</td>
</tr>
</tbody>
</table>

**NATURAL VEGETATION:**

The natural vegetation of Iraq may be classified under five categories: desert, steppe, alluvial, forest and alpine vegetation (Fig. 1).

1. **Desert Vegetation.** The Western and Southern Deserts lie west of the Euphrates and extend to the Syrian, Jordanian and Saudi Arabian borders. Desert plants are annual herbs and herbaceous or woody perennials and biennials.

2. **Steppe Vegetation.** The steppe lies north of the Western Desert. It extends from the Syrian borders across the Tigris to cover the foothills. The Upper Jezira lies in the moist steppe, while the Lower Jezira lies in the dry steppe; both lie west of the Tigris. The vegetation is practically continuous with that of the desert, but is favoured by better climatic conditions, having: a. more rainfall and higher humidity, b. higher altitude and lower temperature. Consequently, the steppe has a higher density of plant population.

3. **Alluvial and Marsh Vegetation.** Many species of alluvial plants are characterised by having succulent or spinose organs. *Phragmites communis*
and *Typha angustata* may be mentioned as examples of marsh plants. In general, the alluvial land is utilized for the cultivation of date-palms and seed crops.

4. Forest Vegetation. The plants are confined to altitudes between 700 and 1800 meters. *Quercus* species are dominant, while *Pinus*, *Pistacia* and *Juniperus* come second to *Quercus*. Many other species of trees such as *Pistanus*, *Juglans*, *Crataegus* and *Tamarix* grow by water streams along with fruit trees. Annual and perennial plants grow on the slopes among these trees.

5. Alpine Vegetation. The plants thrive at altitudes above 1800 meters, beyond the timber line. Plants like *Medicago sativa* and *Taraxacum leucogynum* grow in a belt lying between 1800 and 2000 meters high. On tops of mountains perennials like *Astragalus*, *Carduchorum* and *Acantholimon calverti* grow. Their stems and branches are modified into cushion-like structures, and are almost dome-shaped. Such plants occupy the thorn-cushion zone.
PART I. PHYTOPHAGOUS SPECIES, 1–844

ACARINA

ERIOPHYIDAE

1. Acerea ficus (Cotte). Attacks fig leaves; Mosul: undated; Diyala: Dec; Baghdad & Hilla: undated.

2. A. granati (Can. & Mass.). Attacks leaves of pomegranate causing leaf-margin curl; Mosul & Sulaimaniya: undated.


4. A. olos (Nal.). Attacks olive leaves, causing leaf & fruit malformation; Baghdad: Nov.


6. A. (Eriophyes) tristriatus (Nal.). Attacks willow leaves, producing leaf-galls and brownish blisters on upperside and, sometimes, on underside; Erbil: undated.


8. Diptacus gigantorhynchus (Nal.) Attacks peach leaves turning them brown.


10. E. piri (Figst.) (= E. piri Nal.). Attacks pear leaves, producing brownish blisters on underside; Mosul: Oct; Baghdad: March.

12. *E. vittis* (Pigst.). Attacks grape leaves, producing reddish blisters on both sides; Mosul, Diyala & Baghdad: Oct.


14. *Oxypleurus maxwelli* K. Attacks olive leaves and twigs, producing leaf galls and curls, and growth retardation of both leaves and fruits; Baghdad: Dec; Basra: Jan.


17. *Tamescopes trachycarpi* K. Attacks date-palm leaves; Baghdad: June.

18. *Vasates lycopersici (M) (= V. destructor (Keif. ))*. Attacks leaves of tomato and eggplant which may curl and show discoloration; brownish or silvery russetting on fruit ring is also produced; Baghdad: May.

19. *V. schlechtendali* (Nal.) Attacks apple leaves and turn them rusty; Baghdad: May.

**TENUIPALPIDAE**

20. *Aegyptobia* sp. Attacks poplar leaves; Baghdad: March.


22. *Brevipalpus californicus* (Banks). Same on apple, oak, date-palm and rose.

23. *Cemopalpus (Brevipalpus) lanceolatisetae* (Attiah). Attacks apple leaves and buds.
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27. *T. baeri* Reek. Attacks poplar and willow leaves; Baghdad: July.


29. *T. graminis* Sayed. Attacks leaves of pomegranate and grape, producing discoloration; leaves and flowers might fall; later; Diyala, Baghdad, Ramadi & Korbala: undated.


31. *T. pacificus* Baker. Same on myrtle; Baghdad: May.

32. *T. punicae* (P. & B.). Attacks leaves and buds of pomegranate; infested leaves turn silvery, then brown and finally fall; severe infestation results in defoliation; Diyala, Baghdad, Ramadi & Basra: March—Dec.

**TETRANYCHIDAE**

33. *Bryobia arborea* M. & A. Attacks apple leaves; Baghdad: March.

34. *B. pratensis* Koch. Attacks leaves of apple, cucumber, hoary cress and verbena; producing pale dusty appearance of foliage; young buds and twigs are also attacked; Baghdad: April.

36. *E. (Tetramyces) sexmaculatus* (R.) 3 Same on apple, peach and fig; Kut: June.


38. *Neo tetranychus* sp. Attacks leaves of apple and fig; Baghdad: Feb.

39. *Oligonychus (Perate tranychus) afrasiaticus* McG. 4 Attacks unripe fruits of date-palms producing web around them; dust accumulates on web and fruits which results in reduction of fruit quality and leaf discoloration; Diyala, Baghdad, Ramadi, Hilla & Basra: Feb, July–Sept.

40. *O. pratensis* (Banks). 4 Same; Basra: undated.

41. *Tetranychus atlanticus* McG. 4 Attacks leaves of most fruit trees, vegetables and crops; dust accumulates on web and leaves and interferes with photosynthesis; leaves become weak and dry, and finally fall; Mosul, Diyala, Kut, Kerbala & Basra: Feb.


**TYDEIDAE**

43. *Pronematus* sp. Attacks apple and citrus leaves; Baghdad: undated.

**COLEOPTERA**

**ALLECULIDAE (CISTELIDAE)**

44. *Mycotocharchina* sp. 1 Adults feed on leaves of sugar-bast; larvae probably on rotten wood and humus; Mosul: April.
ANOBIIIDAE

45. Lasioderma serricorne F. 6 Larvae feed on stored tobacco and other stored plant and animal products; country-wide: year-round.

BOSTRICHIDAE

46. Eucnidesmus obtusidentatus L. Larvae bore through stems and twigs of pomegranate and fig, and weaken the infested parts; Baghdad & Basra: April, May & Nov.

47. Octodesmus sp. 9 Larvae bore through felled trees of pistachio, Eucalyptus and Robinia; Mosul & Diyala: March & April.

48. Phonopate frontalis Fabr. Adults and larvae bore through fronds and twigs of date-palms and tamarisk, causing weakness and death of infested parts; Baghdad to Basra: May & June.

49. Prostephanus truncatus (Horn.). Adults and larvae feed on stored corn; Baghdad: July.

50. Rhizopertha dominica F. Adults and larvae feed on stored cereals; country-wide: year-round.

51. Scobicia chevrieri Villa. Larvae bore through stems of apricot, pear, pomegranate and fig; Mosul: March—May & Sept.

52. Sinuoxylon anale Lesne. Adults bore in growing buds of the same hosts as above; larvae in twigs which break easily and affect tree death; Mosul & Baghdad: March, July & Oct.

53. S. ceratoniae Lesne. Larvae on sapwood of dead trees of Dalbergia and Prosopis juliflora; Erbil: Sept; Ramadi: July.

54. Xylidiops basilaris Mull. Larvae bore through wood of mulberry, Al-bisit and Robinia; Ramadi: June.
55. *Xylomites praesius* Gar. 4 Same on pistachio, poplar and fig; Mosul & Baghdad: April, May, Sept & Oct.

**BRUCHIDAE**

56. *Acanthoscelides obtectus* Say. Larvae feed inside stored beans; country wide: warm seasons.

57. *Bruchidius sericeus* Geof. Larvae feed on seeds of Malta jute; Baghdad: Aug; Nasiriya: April.

58. *Bruchus incarnatus* Boh. 4 Same on broad bean; country wide: March—Nov.

59. *B. pisorum* L. 4 Adults feed on young leaves and pollen of legumes; larvae inside fresh and stored seeds of the same; heavily-infested seeds are rendered worthless; Baghdad & Kerbala: Feb, March & Nov.

60. *B. rufimanus* Boh. 4 Same on broad bean; country-wide: March—Nov.

61. *Callosobruchus chinensis* (L). 4 Larvae feed inside fresh and stored seeds of chick pea; heavily-infested seeds are rendered worthless; Baghdad: Oct.

62. *C. maculatus* (Fabr.). 4 Same on chick pea and green gram; Baghdad: March & Aug.

63. *Cardex serratus* Ol. 3 Larvae feed inside tamarind seeds; Basra: Aug & Sept.

64. *Pachymerus fuscus* Goe. 3 Same on *Acacia farnesiana* and *Prosopis* spp.; Erbil: June—Sept; Ramadi: June & July; South: May—Aug.

**BUPRESTIDAE**

65. *Acampe clara densisquammis* Ob. 2 Larvae bore through fig stems; Mosul: July.
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86. *A. desertica* Baudi. Larvae bore through phloem of twigs and young stems of fig and pistachio; Mosul: March.

87. *A. flavolineata* C. & O. Same on oak; Erbil: April.

88. *A. longissima* Ob. Larvae are stem borers of weak pistachio and turpentine trees; Mosul: May & June.

89. *A. spilophora* Mars. Larvae bore in phloem wood of pear stems; Erbil: April.

90. *Agrilus hastulifer* Raiz. Larvae are wood borers of oak, chestnut and *Carpinus betulus*; Mosul: June.

91. *A. lineolata* Redt. Adults feed on flowers of *Casuarina* and *Achillea* sp.; larval wood borers; Mosul: June.

92. *Anthaxia* sp. Larvae bore superficial hibernation tunnels beneath bark of dying or newly-dead branches of pistachio, turpentine tree and *Robinia*; infested branches become dry; Mosul: April & May.

93. *A. brevis* C. & G. Larvae are phloem wood borers of turpentine tree; Erbil: March & April.

94. *A. schah* Ob. Larvae are stem borers of weak fig trees; Amara: March.

95. *A. sepulchralis* F. Larvae are wood borers of pine; Mosul: April.

96. *A. zinkleri* Ob. Larvae are stem borers of almond, plum and greengage; Mosul & Sulaimaniya: May & June.

97. *Buprestis cupressi* Germ. Same on *Cupressus* and *Thuja orientalis*; Erbil: May & July.

98. *Capnodis carbonaria* Klug. Adults feed on growing shoots and newly-formed seeds of almond and apple; larvae in roots and collars; Mosul & Sulaimaniya: May & June.

99. *C. cariosa* Pall. Adults feed on green bark and leaves of young shoots.
of pistachio and turpentine tree; larvae bore near bases of major stems; infested trees gradually die; Mosul & Erbil: April—July.

80. *C. miliaria* Klug. Adults feed on young shoots of poplars; larvae attack roots just beneath soil surface; Mosul & Erbil: May—July; Baghdad: April—Sept; Ramadi: Oct; Amara: March.

81. *C. porosa* Klug. Adults feed on new growths of almond, apricot and sumac which break and die later; larvae are borers of major stems; Mosul, Erbil & Sulaimaniya: May & June.

82. *C. tenebriosa* Oliv. Adults feed on fructifications of *Rumex crispus*; larvae are probably wood borers of *Quercus* sp.; Mosul: May & June.

83. *C. tenebrionis* L. Adults feed on new growths of almond, apricot, plum, peach and greengage; larvae dig in stems, crowns and upper roots; Mosul, Erbil & Sulaimaniya: May—Sept.

84. *Chalcophorella bagdadensis* C. & G. Adults feed on young shoots of apricot, fig, mulberry and *Prunus*; larvae dig beneath bark and inside wood near dead regions of stem; Mosul, Baghdad & Kut: March—July.

85. *C. quadrioculata* Redt. Larvae are stem borers of apple, mulberry, apricot, pomegranate, willow and turpentine tree; Mosul: April—June.

86. *C. stigmatica* Schon. Adults feed on growing shoots of apple and almond which break later; larvae are wood borers; Mosul & Sulaimaniya: May & June.

87. *Chrysobothris affinis* L. Larvae are borers of dying and dead woody regions of fig and *Acacia* sp.; Mosul: June & July.

88. *C. bessoni* Cobos. Larvae are stem borers of pome and stone-fruit trees, mulberry, pistachio, pomegranate and *Zizyphus*; infested trees become weak and die later; country-wide: April—July & Sept.
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80. *C. parvipunctata* Oben. Larvae are phloem wood borers of *Acacia* sp.; Mosul: June.

80. *Corebus rubi* (L.). Adults feed on leaves of *Rosa* sp.; Mosul: June.


82. *J. audouini* C. & G. Same on cereals; Mosul: April & May.

83. *J. pietzschmanni* Kerr. Adults feed on leaves of *Tamarix* spp. and Euphrates poplar; Mosul: June & July.


86. *Melanophila (Euprestis) picta* Pall. Adults feed on young shoots of poplars and willow; larvae are borers of trunk phloem and wood; associated with transmission of the fungus *Cytocepora chrysosperma* (Pers.); country-wide: May—Aug.

87. *Perotis (Euprestis) lugubris* (F.). Adults feed on young shoots of oak, peach, cherry rose and *Rosa canina*; larvae are borers of new shoots and leaf peduncles; Mosul, Arbil & Sulaimaniya: April—June.

88. *Pseudocestus acegyptiaca* Gmcl. Larvae bore through dead wood of fig and felled poplars; Mosul & Kirkuk: June; Baghdad: July.


90. *Sphenoptera* sp. Larvae are stem borers of *Chenopodiaceae*; Amara: March.

102. *S. abia-ahmedi* Cobos. Larvae dig beneath bark of stone-fruit trees and kill cambium; upper parts become dry and die; gum accumulates on infested parts; country-wide: April—June.

103. *S. tappesi* Mars. Same; Mosul, Erbil & Sulaimaniya: May & June.

CANTHARIDAE

104. *Contharia livida* L. Adults feed on leaves and flowers of carrot, sugar-beet, radish, broad bean, alfalfa, wheat and poplar; larvae on decayed plant matter in soil; Mosul & Erbil: March & April; Diyala & Nasiriya: April; Baghdad: Feb—May.

105. *C. tarsalis* Muls. Same; North: April & May; Middle & South: March.

CARABIDAE

106. *Amara aenea* Dejear. Adults occasionally feed on soft grains of wheat and other cereals; Erbil: May; Diyala: April; Baghdad: March.


108. *Zabrus morio* Menetries. Adults feed on flowers and soft grains of wheat and other cereals; larvae skeletonize young leaves; Mosul: Dec & Jan.


CASSIDIDAE

110. *Cassida brevis* Wse. Larvae feed on leaves of unidentified weeds; Mosul: June.

CERAMBYCIDAE

111. *Arhopalus ferus* (Muls.). Larvae are wood borers of dead and, probably, live pine trees; Mosul: May—Aug.
112. *Aronia moschata* (L). Larvae are stem and branch borers of willow and oak, causing permanent physiological damage; unlocated: June.

113. *Cartailum ebulinum* (L). Undetermined feeding habits on barley, flax and broad bean; North: April & May; South: March.

114. *Cerambyx cordo* L. Larvae are stem and branch borers of willow, oak and elm; their attack facilitates entry of wood-rotting fungi; Sulaimaniya: March—May & Aug.

115. *C. dus Fald.* Larvae are wood borers of oaks; Mosul: June & July.

116. *Chlorophorus varius* Muhl. Larvae bore through inner bark and woody parts of major stems and shoots of dead and dying pome and stone fruit trees, mulberry, grape and fig; country-wide: May—July.

117. *Clytus* sp. Larvae are wood borers of live pistachio, mulberry, fig and locust-tree; Mosul: May & June.

118. *Hesperophanes griseus* (F). Larvae are wood borers of fig, causing weakness and death of infested trees; Up. Jezira: June & July.


120. *H. sericeus* (F). Larvae attack woody parts of weak and dead oak, wild pistachio and wild almond trees; Erbil: July & Aug.

121. *Jebusaeae hammerschmidtii* Reich (= *Pseudophilus testaceus* Cahan). Larvae dig through leaf bases of date-palms first, then through stem; causing weakness of tree and low yield; Middle & South: April—July.

122. *Osphranteria coerulescens* Redt. Larvae dig through major stems and young shoots of pome and stone fruit trees, leaving the outer bark only; infestation results in desiccation and death of distal parts; Mosul: May & June.

123. *Plagiognatus orcuttus* L. Larvae are wood borers of oak; Mosul: June.
124. *P. bobelaucel* Bruille. Adults feed on flowers of *Althea* sp.; larvae are wood borers; Mosul: June.

125. *Pseudoalbana lamaeri* Pic. Larvae are stem borers of melon and water melon; causing weakness and death of plant.

126. *Purpuricenus (Cerambycidae) budensis* Gotz. Adults feed on flowers of *Onopordion* and *Echinops*; larvae bore through branches, causing their desiccation; Mosul: June.

127. *P. dalmatianus* Strum. Larvae are stem borers of oak and walnut; infested trees become weak; Mosul; June.

128. *Saperda populaneae* L. Adults feed on leaves of poplar; larvae bore through twigs of young plants, causing gall formation.

**CETONIIDAE**

129. *Cetonia aurata* L. Adults attack young leaves, flowers and fruits of wild safflower and milk thistle; Mosul: May—July.

130. *Oxystyrea ciastela* (Schaum). Adults feed on flowers and buttons of apple, rose and wild safflower; and, occasionally, on grape leaves; Mosul & Sulaimaniya: April & May; Diyala: May; Baghdad: Feb—July & Nov; Hilla: April.


132. *Tropinota (Epicoctetes) squalida* Scop. Same on legumes, crucifers and rose; Mosul: Feb; Baghdad: Feb—June & Nov; Ramadi: Sept; Basra: April.

**CHRYZOMELIDAE**

133. *Chalcoides aureus* Geoff. Adults feed on leaves of poplars; Mosul: Sept.
134. *Chrysolina chalcites* (Germ.). Adults and larvae feed on pine leaves; Erbil: undated.

135. *C. grata* (Fall). Same on unidentified weeds; Erbil: May.

136. *Chrysomela coerulans* Scriba. Adults feed on leaves of mint and unidentified weeds; Mosul: Feb; Erbil & Diyala: April & May; Baghdad: April—Nov.

137. *C. menthastri* Suff. Same; Mosul: June, July & Sept; Erbil: April.

138. *C. orientalis* Ol. Same on unidentified weeds; Sulaimaniya: May; Baghdad: March & April.

139. *Colepholis apicalis* Men. Adults and larvae feed on leaves of turnip, cress, radish, eggplant and barley; Baghdad: March & Nov; Hilla: Oct; Kerbala: Nov; Basra: March.

140. *C. sophiae* (Schall). Same; Middle & South: Feb—April, Oct & Nov.

141. *Cryptocephalus* sp. Adults feed on *Tamarix* leaves; Ramadi: April.

142. *Diapromorpha* sp. Same on oak; Sulaimaniya: May.

143. *Diorthobda persica* Faid. Adults and larvae feed on leaves of *Prosopis* forest; South: May—Aug.

144. *Entomoscelis bergtonsis* Reich. Same on wheat, barley and weeds; Mosul: April; Sulaimaniya: May.

145. *Lema melanopa* (L). Same on wheat, barley and other cereals; Baghdad: April.

146. *Megasoma (Chrysomela) populi* (L). Adults and larvae feed on leaves of poplar and willow; young larvae are leaf skeletonizers of young plants; Mosul: Aug; Erbil: April & July.

147. *Monolepta* sp. Same on willow; Sulaimaniya: Aug.
148. *Phyllotreta* sp. Adults secured from injured bark of poplar and *Eucalyptus*; Mosul: March—Nov.

149. *P. cruciferae* (Goeze). Adults feed on foliage of broad bean, turnip and beets, leaving circular or irregular holes; larvae feed on roots and cause weakness or death of plant; Sulaimaniya: July & Aug.

**Clytridae**

150. *Clytra nigricineta* Lac. Adults feed on leaves of *Tamarix* and *Prosopis*; Mosul, Diyala & Baghdad: March & April; Amara: April; Nasiriya: April—Sept; Basra: March.

151. *Ceptocephala unifasciata* (Scop.). Same on Euphrates poplar; Mosul: July.

152. *Gynandrophthalma unipunctata* Otl. Adults feed on leaves of *Tamarix*, pistachio and weeds; larvae inside terminal buds; Mosul & Baghdad: March—May; Ramadi, Kut & Basra: April.

153. *G. viridana* Lac. Same on wheat; Mosul: April.

154. *Labidostomis longimana* L. Adults feed on leaves of wheat and barley; Mosul & Nasiriya: April; Sulaimaniya: May.

155. *L. propinqua* (Fald.). Same on willow; Mosul: June.

**Coccinellidae**

156. *Epilachna chrysomelina* (F). Adults and larvae feed on leaves of cucurbits, causing death of young plants; Mosul: June, Aug—Oct; Diyala: Dec; Baghdad: Jan, Feb, April—June, Aug, Oct & Dec; Ramadi: May; Kerbala: April & Nov.

**Copridae**

157. *Onthophagus oberthuri* d. Orb. Adults and larvae feed on dung, barley
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fields and weeds; Diyala & Amara: March; Baghdad: Feb—July; Hilla: Sept.

158. O. muscicapillus Brulle. Same in soil of wheat, barley and flax fields; Sulaimaniya: May.

159. Scarabaeus sacer L. Same in soil of weeds; Mosul & Hilla: June; Baghdad: March—Aug & Nov; Diyala & Baara: April; Ramadi: May, July; Diwaniya: July.

CRYPTOPHAGIDAE


CUCUIJIDAE

161. Cryptolestes (Laemophloeus) pusillus (Schon.). Adults and larvae feed on stored dates and grains; Baghdad: May—Nov.

162. Laemophloeus ferrugineus Stephens. Same.

163. Oryzaephilus (Silvanus) surinamensis (L.). Same; infested fruits or seeds become unfit for human consumption; country-wide: year-round.

164. O. mercator (Fauv.). Same; country-wide: year-round.

CUCULIONIDAE

165. Ancythopoeus curvirostris (Tournier) (= Baris granulipennis Tourn.). Larvae feed inside fruits of water-melon, causing lignification of flesh; Baghdad: June.

166. Bagous sp. Adults and larvae probably feed on stems and flower stalks of rice; Erbil: June; Baghdad: May.

167. Brachytomnus porcatus (Germ.). Larvae feed beneath bark and outer sapwood of felled pine trees; Mosul: May—Aug.

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166. Cleonus (Conorrhynchus) brevirostris (Gyll.). Adults feed on buds and buttons of beet; larvae on roots and germinating seeds; Baghdad: May & June; Kut: May.

167. Curculio sp. 2 Larvae feed inside acorns of oaks which turn black and fall early; Sulaimaniya: Sept.

168. C. glandarium Marsh. 2 Same; Sulaimaniya: Sept & Oct.

169. C. longipennis (Reitt.). 2 Same; Sulaimaniya: Oct.

170. Echinoconus sp. Larvae feed on rice roots; Erbil: June.

171. Eusimus minusculi Hochhut. Adults feed on Tamarix leaves; Mosul & Baghdad: March & April.

172. Hydronomus sp. Larvae feed on rice roots; Kerbala & Diwaniya: summer.

173. Hypera variabilis (Hbst.) ( = H. postica Gell.). Adults feed on leaves and stems of alfalfa; larvae on young leaves; Mosul & Kut: April; Baghdad: Jan, March—May; Ramadi, Kerbala & Diwaniya: March; Nasiriya: Feb.

174. Hypoixus rubicosus Boh. ( = H. pulviscolus Boh.). 1 Adults feed on leaves of Acacia, Tamarix and turnip; Baghdad: July, Aug, Nov & Dec.

175. Lartius griseusculus Gyill. Larvae feed on and destroy young developing seeds of safflower; Baghdad: March—June.


177. L. ovaliformis Cap. Same on wheat, barley and composite weeds; Mosul & Kerbala: April; Sulaimaniya: May.

178. L. syriacus Gell. Larvae feed on and destroy young developing seeds of safflower; Baghdad: March—June.

179. L. lucanusculus Boh. 1 Larvae feed on leaf petioles of unidentified weeds; Mosul: March & Sept; Baghdad: April; Hilla: Oct.
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182. *Meganecus confinis* Gyll. Adults feed on leaves of Euphrates poplar; Baghdad: March.

183. *Mesistes cunipes* Boh. Larvae feed on heartwood of white willow, and may facilitate the entry of fungi; Sulaimaniya: Aug.

184. *Pyioceris damascenus* Mill. Adults feed on leaves of alfalfa, cotton, water-melon, poplar, citrus, peanut; and *Robinia*; Mosul: May—Sept; Baghdad: Aug & Sept.


186. *Polydrusus* sp. (= *Eustolus*). Adults attack green twigs and buds of oak; larvae are leaf-miners; Sulaimaniya: May.


188. *Sitona* spp. Adults feed on leaves of legumes; larvae on roots; Mosul: March; Diyala: undated.


190. *S. linearis* (Hbst.). Same on peanut and tamarind; Basra: March & Sept.

191. *S. oryzae* (L.). Same on rice and other cereals; country-wide: year-round.

192. *Tenurodes diaticollis* Gyll. Larvae feed on leaves of barley and beet; Baghdad: Jan & July; Nasiriya: March.

DERMESTIDAE

193. *Anthrenus* sp. Adults feed on pollen; larvae on dead insects; Baghdad: March, April, Sept & Dec.

194. *A. vora* Waterh. Same on animal and plant material; Baghdad: June.
185. *Atticus gloriosae* Feb. (= *A. fasciatus* (Ol.)). Adults feed on pollen; larvae on stored tobacco; Baghdad: Sept.

186. *A. piccus* (Ol.). Larvae feed on stored wheat and rice; Baghdad; undated.

187. *Dermestes maculatus* De Geer (= *D. vulpinus* F.). Adults and larvae feed on animal and plant products; Baghdad: June.


**DYNASTIDAE**


204. *Pentodon hispinosus* Kust. Adults feed on green bark of cereals and weeds at soil level; larvae on roots; Mosul, Diyala, Amara and Basra: April; Baghdad: Oct—June; Ramadi: May & Nov; Hilla: June; Nasiriya: March & Sept.

**ELATERIDAE**

205. *Agriotes* sp. Larvae attack germinating seeds of cotton, carrot, potato, lettuce and cereals; Mosul: April & May; Baghdad: March, April & July—Sept.
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206. *Drazerius binaculatus* R. Same on sugar-beet and sesame; Baghdad: Feb—May.

207. *D. figuratus* G. Same; Baghdad: March—May.

**Galerucidae**

208. *Galeruca orientalis* Ocul. Adults and larvae feed on leaves and fruits of composite plants; Erbil: June.

209. *Galerucella tenella* L. Adults and larvae feed on leaves of melon, watermelon, pepper and *Eucalyptus*; Baghdad: Feb & July—Sept.

210. *Raphidopalpa (Aulacoaphora) foveicollis* (Lucas). Adults feed on leaves, flowers and young shoots of cucurbits; larvae on roots and lower parts of stems; Middle & South: spring & summer.

**Glaphyridae**

211. *Amphiocera fastuosa* R. H. Adults feed on petals, stamens and pollens of wild poppy; larvae on roots; Mosul: undated.

212. *A. papaveris* Sturm. Same on wheat, flax and poppy; Mosul, Sulaimaniya & Kirkuk: April & May.

213. *A. vitata* F. Same on wild safflower; Mosul & Sulaimaniya: May & June.

214. *A. vulpes* (F). Same on wild poppy; Mosul, Erbil & Baghdad: March & April.

**Halticidae**

215. *Altica (Halica) deserticola* Wse. Adults and larvae feed on leaves of willow and liquorice; Mosul: March—Oct; Sulaimaniya: May, June & Nov; Baghdad: April—June.

216. *A. tamaricis* Schr. Same on *Tamarix*.
217. *Aphthona flaviceps* Allard. Adults feed on pistachio leaves; Mosul: March.

218. *A.fuscata* Reit. Same on pistachio and poplar; Mosul: March & Sept.

219. *Cheetocnema conducta* (Motsch.). Adults feed on vegetable leaves; larvae on roots and subterranean growths; Baghdad: March.


221. *Podagrica malvae* (Ill.). Same on cotton, okra and orange; Kerbala: March.

222. *P. puncticollis* Wse. Same on pear; Erbil: April.

**LAMIIDAE**

223. *Agapanthia cardui* (L.). Adults feed on leaves and flowers of broad bean; early larvae are stem miners; late larvae show cannibalism (cf. 884); Mosul & Sulaimaniya: May & June; Baghdad & Amara: March.

224. *Phytocla hurneralis* Walt. Larvae are stem borers of barley and flax; Mosul: April & May; Sulaimaniya: May; Baghdad & Amara: March & April.

225. *P. melibdaena* Dalm. Same on wheat and sugar-beet; Erbil: June; Sulaimaniya: May.

**LYCTIDAE**

226. *Trogoxylon impressum* (Comolli). Larvae attack dead wood of *Tamarix* and *Robinia pseudoacacia* and cause damage; Mosul: May—July.

**MELOIDAE**

227. *Corocona scovitzii* Fald. Adults feed on leaves of unidentified weeds; Mosul: June; Sulaimaniya: May.
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228. Epicauta textillis Haag. Same on sugar-beet, potato, eggplant, myrtle, alfalfa; Sulaimaniya & Kut: May; Baghdad: April, May & Sept.

229. Lythis peregrina Mars. Adults feed on pollen of composite weeds; larvae probably on eggs of grasshoppers (cf. 886); Mosul: May & June.

230. Micromerus (Lythis) collaris (F). Adults feed on leaves of wheat, garden-beet and oak; Mosul & Erbil: June; Sulaimaniya: May; Diyala: April.

231. Mylabris bipunctata Oliv. Adults feed on stamens of Prosopis and okra; Baghdad: July; Hilla: June.

232. M. cinerea Oliv. Same on broad bean, Bermuda grass and weeds; Mosul: July; Sulaimaniya & Diyala: April & May; Baghdad & Amara: April.

233. M. quadrivittata L. Adults feed on leaves and stamens of unidentified weeds; larvae probably on eggs of migratory locusts (cf. 889); Mosul: May & June; Sulaimaniya: May.

234. M. syriaca Klug. Same; Mosul: May & Aug; Sulaimaniya: May.

NITIDULIDAE

235. Carpophilus dimidiatus F. Adults and larvae feed on flesh and seeds of harvested and fallen dates; Baghdad & Basra: June & Aug—Oct.

236. C. hemipterus (L.) Same; Baghdad: June; Basra: Feb, May & June.


238. C. obsOLETUS Er. Adults feed on pollen of date-palms; Baghdad: March.

ORSODACNIDAE


241. Z. scutellaris Suffr. Same; Erbil: Feb.
OSTOMIDAE

242. *Tenebrioidea mauritianus* L. Larvae feed on stored grain and cereal products; occasionally on other insects in the same medium; middle & South: warm seasons.

PTINIDAE

243. *Gyllium psyllodes* (Czemp.). Adults and larvae feed on stored seeds, wool, plant and animal collections; Baghdad: April.

RUTELIDAE

244. *Adoretus* sp. Adults are leaf skeletonizers of poplars and willow; they weaken the infected trees and encourage attack by *Melanophila pica*; larvae feed on roots (cf. 96); Mosul: July.

245. *A. compus* Men. Adults feed on leaves of stone fruit trees and grape; larvae on roots; Baghdad: March & Nov.


247. *A. irakensis* Obs. Same on poplar, willow and *Pyrus* spp.; Mosul: May—July; Baghdad: June.

248. *A. pruinosa* Ball. Same on poplars; Mosul: June & July.

249. *Anisoplia leucaspis* Cast. Adults feed on leaves and soft seeds of willow, Euphrates poplar, *Tamarix*, sugar-beet and cereals; larvae on roots and seedlings; Mosul & Erbil: April & June; Sulaimaniya: May; Baghdad: March.

250. *A. dasia* Scop. Adults feed on leaves of sycamore, pistachio, poplar, grape and pear; Mosul: June & July.

251. *A. vitis* (F). Adults feed on leaves and blossom of poplar; larvae on roots; Mosul: June.
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252. Oenoporus pallidus (Kust.). Adults feed on Tamarix flowers; Mosul: May & June.

253. Omophila sp. Adults feed on leaves and flowers of unidentified weeds; larvae on humus and rotten wood first, then on roots and germinating seedlings of cereals; Mosul: Oct & Nov.

SCARABAEIDAE

254. Rhinotrogus deserticola Blanch. Adults feed on leaves of oak and pine; larvae on roots; North: undated.

SCOLYTIDAE

255. Argeorus (Chastoptelius) vestitus (Muls. & Rey.). Adults feed on buds and leaf axils of maple, elm, pistachio, white ash, olive and junipers, causing leaf wilting; larvae dig tunnels beneath bark of weakened trees; Mosul: March—Dec.

256. Carphoborus (Eustenoborus) perrii Chap. Larvae are bark borers of pistachio; Mosul: undated.

257. Hypoborus ficius Er. Larvae feed on fig bark, causing its separation from tree; North & Middle: Feb—April & Oct.

258. Oxythoecinus proximus (Eich.). Larvae dig tunnels beneath bark of pine; Mosul: May—Sept.

259. Plocoschistes scorabaceoides Bernard (= P. olen F. and P. delphius Del G.). Adults attack and destroy healthy twigs of olive; larvae attack inner bark of twigs and cause leaf wilting; Mosul: April & May.

260. Scolytus amygdali Rtt. Larvae dig tunnels through bark of pome and stone-fruit trees; Mosul: Oct & Nov; Baghdad: April.

261. S. kosmigii Schew. Larvae dig through bark of maple; Sulaimaniya: May.

262. S. rugulosus Ratz. Adults feed on buds of pome and stone-fruit trees.
larvae dig through bark, causing wilt and death of infested parts; country-wide: March—Sept.


**Tenebrionidae**

265. *Alphitobius diaperinus* (Fanz.). Adults and larvae feed on stored wet seeds of wheat; Erbil & Diyala: April; Baghdad: Jan—May, Aug & Dec; Ramadi: May.

266. *Gonoccephalus pusillum* (F). Larvae attack germinating seeds of barley, sorghum and weeds; Sulaimaniya: May; Baghdad: April—June; Hilla: June; Amara & Basra: March.

267. *G. rusticum* Oliv. Same on wheat, barley, tomato and weeds; Mosul: April; Sulaimaniya: May & Oct; Baghdad: April—July; Hilla: June; Amara: March; Basra: Jan & March.


269. *Latheticus cryzas* Waterh. Larvae feed on stored cereal products; Middle & South: warm seasons.

270. *Mesostena angustata* (F). Adults feed on buds of unidentified weeds; Amara: March.

271. *M. puncticollis* Sol. Same on barley; Mosul: April; Diwaniya: March & April.

272. *Opatrodes punctulatus* Bruehle. Adults feed on leaves of poplar, *Eucalyptus*, apricot, tobacco and weeds; larvae on seedlings and mine through
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_Eucalyptus_ leaves; Mosul: March–July; Diyala: Dec; Baghdad: Feb–April, June, Nov & Dec.

273. *Palorus ratisborgii* (Wiss.). Adults and larvae feed on stored flour; Mosul & Erbil: April; Sulaimaniya: May.

274. _Scleron fossulatum_ Mols. Larvae feed on young seedlings of unidentified weeds; Mosul: April.

275. _S. sulcatum_ Baudi. Same; Ramadi: May.

276. *Strongyloides* sp. Larvae are stem borers of fig; Mosul: May & June.

277. *Tribolium castaneum* Hbst. Adults and larvae feed on stored grains and cereal products; country-wide: year-round.


DIPTERA

AGROMYZIDAE

279. *Agromyza megalops* Hg. Larvae mine through wheat and barley leaves; Baghdad: March.

280. _A. maxima_ Melg. Same on alfalfa and other legumes; Baghdad: March & April.

281. _Liriomyza* sp. Same on legumes and crucifers; Basra: March & April.

282. *L. brassicae* (Rll.). Same; Basra: March & April.

283. *L. bryoniae* Klth. Same on cucumber, melon and other cucurbits; Baghdad: May.


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285. *L. strigata* (Mg.). Same; Basra: March & April.

286. *Melanagromyza* sp. Larvae dig through sesame stems, causing wilting of growing tips; Baghdad: July.

287. *Phytomyza atricornis* Mg. Larvae mine through leaves of alfalfa, sweet pea, potato, flax, turnip, sunflower; Baghdad: March—May; Kut, Hilla, Kerbala, Diwaniya, Amara & Basra: March & April.

288. *P. horticola* Goureau. Same on lettuce; Baghdad: March.

**BIBIONIDAE (SCATOPSIDAE)**

289. *Bibio* sp. Larvae attack germinating seeds and seedlings of unidentified weeds; Mosul: April.

290. *B. hortulana* (L). Same on cereals, beet, tobacco and potato; Baghdad: March.

291. *Scatopsia* sp. Larvae feed on decayed material of citrus; Baghdad: April.


293. *Brada* sp. Adults cling to queens and workers of honey bees; larvae dig through wax and share food with larvae; North & Middle: spring.

**CECIDOMYIIDAE**

294. *Amplicladiella tamaricis* Kief. Larvae feed on *Tamarix* leaves which form cone-shaped galls; Mosul: April.


**CHLOROPIDAE**

296. *Meromyza nigricentris* Macq. Larvae attack flowers, soft grains and terminal parts of young cereals and weeds; Baghdad: March.
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297. *O Cecilosa frit* (L). Larvae attack terminal parts of young cereals.

**DROSOPHILIDAE**


**LAUXANIIDAE (SAPROMYZIDAE)**

299. *Sapromyza* sp. Larvae feed on dead leaves of beet; Mosul: Sept.

**MUSCIDAE (including ANTHOMYIIDAE, LONCHAELDAE and SCATO-PHAGIDAE)**

300. *Antherigona orientalis* Schin. Larvae attack and destroy young onion seedlings; Kerbala: Nov.

301. *A. varia* Mg. Same on alfalfa and sorghum; Kut: Sept.

302. *Hyilemya antiqua* Mg. Larvae dig through onion and garlic bulbs causing leaf chlorosis and bulb rot; Baghdad: March & April.

303. *H. (Della) arambourgi* Seguy. Larvae attack and destroy young seedlings of cereals and weeds; Baghdad: May.

304. *H. coarctata* Fall. Larvae feed inside stems of cereals and weeds, causing dead heart; undated.

305. *H. platyra* (Meig.) (= *Della cicurana* (Rond.)). Larvae feed on germinating seeds of corn, beans and cucurbits (cf. 914); Baghdad: March.

306. *Lonchaea (Silba) aristella* Beck. Larvae feed inside fig fruits; infested fruits become sour, then fall down; Mosul, Erbil & Baghdad: May—July.

307. *Pegomyia sp. betae* complex. Larvae mine through leaves of beet, Chenopodium and Polygonum which die later; Baghdad: Nov & April.

308. *P. hyoscyami* (Panz.). Same on sugar-beet and spinach; seedlings are damaged too; Mosul: April & May.
PHORIDAE

309. *Megaseha* sp. Larvae are scavengers on stored potato, and dead plant and animal material; Nasiriyah: May.

SCIOMYZIDAE

310. *Sepeon* sp. Larvae are stem borers of rice; Kut: Feb.

SYRPHIDAE

311. *Eumerus* sp. Larvae attack onion bulbs in field and store, causing their rot; Hilla & Kerbala: Jan, Feb & June.

312. *Syritta* sp. Adults probably feed on carrot nectar; Baghdad: March.

TRYPETIDAE (TEPHRITIDAE)

313. *Acanthophilius helianthi* Rossi. Larvae feed inside flower heads of safflower and damage seeds; Baghdad: March—Nov.


315. *Ceratitis* sp. Same on melon, *Zizyphus* and weeds; Mosul: May; Baghdad: July—Sept.


317. *Myiopadalis paradoxa* Bigot. Same on melon and water-melon; Baghdad: July.

HEMIPTERA

BERYTIDAE (NEIDIDAE)

318. *Metacanthus elegans* Curt. Adults and nymphs feed on gourd leaves.
COREIDAE

319. *Corizus (Therepha) hyoscyami* L. Adults and nymphs attack leaves and stems of alfalfa; Mosul: March; Erbil: June—Aug; Diyala: April.

320. *Homococerus (Omanocoris) variabilis* Dall. Same on cotton and thistle; Baghdad: year-round.

321. *Liorhyssus hyalinus* (F). Adults and nymphs attack cotton bolls, tobacco seed heads, cereals and legumes; Mosul: Sept; Baghdad: Feb & May—Aug; Ramadi: May; Kerbala: Nov.

322. *Plocoris luridus* Fieb. Adults and nymphs feed on poplar and pine cones damaged by *Dioryctria* (cf. 726—727); Mosul: May; Erbil: Feb.

LYGAEIDAE

323. *Nycteris cymoides* (Spîn.). Adults and nymphs damage seeds of tobacco, water-melon and grape, and seed pods of crucifers; Baghdad: May-Dec.

324. *Oxycarenus hyalinipennis* Costa. Adults and nymphs feed on cotton and okra seeds; infested seeds become dwarf, semi-empty and unable to germinate; Baghdad: July, Nov & Dec; Basra: Oct.

325. *Spíloctenus (Lygaeus) pandurus* (Soop.). Adults and nymphs feed on cotton, corn, sesame, and ripe grapes and stone-fruits; Mosul: April; Erbil: May & Aug; Baghdad: Feb, April-Aug & Dec; Ramadi: March-May.

MIRIDAE (CAPSIDAE)

326. *Campylomma diversicornis* Reut. Adults and nymphs attack flowers and terminal buds of cotton, castor bean and cucurbits (cf. 937); Baghdad: Aug—Dec; Diwaniya: Aug.

327. *Creontiades pallidus* (Ramb.). Adults and nymphs attack cotton buds, and flowers and stems of clover and weeds; Baghdad: May & June; Ramadi & Kerbala: Nov; Hilla: Sept & Oct.

329. *Deraeocoris (Camptobrochis) pallens* (Reut.). Adults and nymphs attack flowers and young stems of wheat; Erbil: July; Diyala & Kerbala: Nov; Baghdad: Jan, March—May, Aug & Sept; Hilla: Oct & Nov.

330. *D. punctulatus* (Fall). Same on grape, alfalfa and crucifers.

331. *Tuponcia lethierryi* (Reut.). Adults and nymphs attack young twigs and buds of *Tamarix*; Baghdad: April.

**PENTATOMIDAE**

332. *Aelia acuminata* (L). Adults and nymphs feed on young stems and heads of wheat and barley which produce empty seeds; produce bad odour and when left on hay, render them unsuitable as animal food; Mosul: June; Erbil: Aug; Diyala: April; Baghdad: March, April & July; Hilla: Sept.

333. *A. albottitata* Fieb. Same; North & Middle: undated.

334. *A. glibana* Fr. (*= A. rostrata* B.). Adults and nymphs attack young stems and soft grains of wheat and weeds; Mosul, Erbil & Sulaimaniya: June.

335. *Apodiphus amygdali* Germ. Adults and nymphs feed on stems and twigs of peach, plum and apricot; Baghdad: summer.


337. *Carpocoris fuscispinus* (Boh.). Adults and nymphs feed on young stems and heads of wheat and barley; Sulaimaniya: May; Kut: March; Amara: April.
338. *C. pudicus* (Poda) (*alias* *C. nigricornis* F.). Adults and nymphs feed on young stems and heads of wheat, barley, pistachio and crucifers, which produce empty seeds; stink odour left on hay renders it unsuitable for animal consumption; Mosul: March & June; Erbil, Sulaimaniya & Kirkuk: undated.

339. *C. purpureipennis* De G. Samie on wheat, potato, carrot and weeds; Mosul: April; Erbil: May.

340. *Codophila lunulata* (Goeze). Adults and nymphs attack flowers and fruit pods of alfalfa and weeds; Mosul: July.

341. *Dolycoris baccarum* (L.). Adults and nymphs feed on young and soft parts of cereals, vegetables and tobacco; Mosul: March, April, June, Sept & Nov; Erbil: May, Aug & Nov; Sulaimaniya: May; Kut: March; Aram: April.

342. *Eurydema ornatum* (L.) (*alias* *E. festivum* L.). Adults and nymphs attack flowers and terminal parts of cotton, turnip and crucifers; Up. Jezira: March; Erbil: Aug; Sulaimaniya: May; Dijala: Dec; Baghdad: Feb, March, June, July, Nov & Dec; Ramadi: Nov; Kerbala: Nov & Dec.

343. *Eurygaster integriceps* Fut. Adults and nymphs feed on young stems and heads of wheat and barley which produce empty seeds; stink odour left on hay renders it unsuitable for animal consumption; Mosul: June; Erbil: Aug; Sulaimaniya: April; Baghdad: Jan, June & Nov.


345. *Graphosoma semipunctata* (F.). Adults and nymphs feed on flowers of carrot; Mosul: June.

346. *Nezara graminea* Fleb. Adults and nymphs attack developing fruits of cotton, corn and millet.

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349. *Piesacodorus nitidus* F. (→ *P. incarnatus* Germ.). Adults and nymphs attack okra, plum and wheat heads; Mosul: March & April; Erbil: Aug.

350. *Thalagyus flavolineatus* (F). Adults and nymphs feed on carrot flowers; Mosul: June.

**PYRRHOCORIDAE**

351. *Pyrrhocorus apterus* (L). Adults and nymphs attack flowers and fruits of alfalfa; Mosul: Sept; Diyala: Nov & Dec; Baghdad: Feb, June, Nov & Dec; Ramadi: Nov; Kut & Kerbala: Dec.

**TINGIDAE**

352. *Monostira buccata* Horv. Adults and nymphs attack leaves of poplars and willow; chlorosis, break-down of leaf tissue, and early fall of leaves result; infestation encourages attack by *Melanophila picta* (cf. 96); Mosul: May—Sept; Sulaimaniya: Aug; Baghdad: April—July.

353. *M. unicolorata* M. H. Same on poplar, oak and stone-fruit trees; Sulaimaniya: Aug; Diyala: Sept.

354. *Stephanitis pyri* F. (→ *S. oshonini* Vasa.). Adults and nymphs attack leaves and sepals of pome and stone-fruit trees and sunflower; brown spots appear on both, and gum exudes from feeding spots; chlorosis results; Erbil: Sept; Sulaimaniya: Aug; Baghdad: June—Aug.

**HOMOPTERA**

**ALEYROIDAE (ALEURODIDAE)**

355. *Acaudaleurodes albipalpis* P. & H. Adults and nymphs feed on *Zizyphus* leaves.
258. *Bemisia tabaci* (Geun.). Adults and nymphs feed on leaves of cotton, okra, tobacco, sunflower, sesame, cucurbits, legumes, etc.; chlorosis results; Baghdad: July & Aug.

257. *Trialeurodes* sp. Adults and nymphs feed on citrus leaves; honey-dew is secreted on leaves and chlorosis results.

APHIDIDAE

258. *Acythosiphon gossypii* Mordvilko. Adults and nymphs feed on leaves of turnip and legumes, producing leaf curl; Baghdad: March, April, Oct & Nov; Ramadi: April; Kut: Jan; Hilla & Diwaniya: March.

259. *A. (Macrosiphum) pismum* (Harris). Adults and nymphs feed on leaves, stems and fruit pods of alfalfa, beans and broad bean; Baghdad: Feb, March & Oct.

260. *A. (Trialeurodes) scariolae* (Nevsky). Adults and nymphs feed on young leaves and terminal parts; Baghdad: March—May; Hilla: Feb.

261. *Aphis craccivora* Koch. Adults and nymphs feed on young growths, leaves and seedling pods of citrus, legumes, cucurbit, liquorice and tomato; leaves become dry and fall; fungi grow on honey-dew; country-wide: year-round.

262. *A. durantae* Theob. Adults and nymphs feed on pomegranate leaves.

263. *A. fabae* Scop. Adults and nymphs feed on stems, leaves and flowers of broad bean and other legumes, beet, mustard, artichoke, tomato and celery and secrete honey-dew; Mosul: April—June; Baghdad: Jan—May; Ramadi & Diwaniya: Feb; Kut: April.

264. *A. ficus* Theob. Adults and nymphs feed on leaves, buds and flowers of fig; Sulaimaniya: May.

265. *A. gossypii* Glover. Adults and nymphs feed on leaves of cotton, okra, tobacco, cucurbits, legumes, pome and stone-fruit trees, and pomegra-
nate; chlorosis and leaf curl result; honey-dew on cotton seedlings; 
Middle & South: spring-autumn.

366. A. nerii Fonse. Adults and nymphs feed on leaves of oleander and weeds; 

367. A. pomi De G. \( ^3 \) Same on apple; Mosul: May.

368. A. punicae Passer. Adults and nymphs feed on shoot tips, leaf undersurface and flowers of pomegranate; attack by sooty mold is encouraged; 
Mosul: May; Baghdad: March—June; Kerbala: May & July.

369. A. ruborum (Borner). Adults and nymphs feed on young growths of blackberry above and below soil surface; Mosul: April; Sulaimaniya: 
Oct; Baghdad: April.

370. A. solanella Theob. Adults and nymphs feed on leaves of broad bean, corn, beet, poppy and weeds; chlorosis and leaf curl result; honey-dew on infested leaves; country-wide: spring—autumn.

371. A. verbacisi Schrank. Adults and nymphs feed on young twigs and leaves of Verbascum sinuatum; Baghdad: Jan.

372. A. zizyphi Theob. Adults and nymphs feed on young growths of Zizyphus nummularia; Baghdad: April.

373. Asiphum sp. \(^4\) Adults and nymphs feed on leaves of Euphrates poplar, causing leaf deformation, and petiole and internode shortening; infested branches have tips of bushy appearance; Erbil: May-Aug; Diyala: 
April.

374. Baisonyia pistaciae (L). Adults and nymphs feed on leaves of turpentine tree which produce cylindrical, horn-like galls; Mosul: undated.

375. Brachyceradus amygdalinus (Schput.). Adults and nymphs feed on leaves of almond, peach and Rumex, causing leaf curl; Mosul: April; Erbil & Ramadi: July; Diyala: March; Baghdad: Jan, March & April.
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376. *B. helichrysi* (Kalten.). Adults and nymphs feed on stems, leaves and flowers of *Centaurea*, causing deformation and wilting of infested plants; Baghdad: April.

377. *Brachynaguis harmala* Das. Adults and nymphs feed on leaves of tomato and *Peganum harmala*; Mosul & Baghdad: April.

378. *B. tamarinis* (Licht.). 1 Same on *Tamarix*; Baghdad: June; Diwaniya; Oct; Basra: April & May.

379. *Brevicoryne (Horshurstia) atriplicis* (L). Adults and nymphs feed on leaves and flowers of *Chaenopodium*, causing leaf curl; infested plants may die; Baghdad: April–June.

380. *B. brassicae* (L). 2 Same on cabbage, cauliflower, mustard and turnip; Mosul: Sept & Nov; Diyala: Dec; Baghdad: Feb–April & July; Hilla & Kerbala: March; Kut: March & April; Basra: March & July.

381. *Callipteriniella (Chroamphis) juglandicola* (Kalten.). Adults and nymphs feed on young walnut leaves; sooty mold develop on infested leaves; Mosul: May & Oct; Arbil: June–Sept; Diyala: Nov.

382. *Capitophorus carduinius* (Walk.). Adults and nymphs feed on leaves of *Carduus*; Erbil: July.

383. *C. caesarii* (Del Guer.). Same on artichoke; Baghdad: April.

384. *Chaitophorus* sp. Adults and nymphs feed on leaves of poplars, willow and *Cymnachium*; usually attended by ants; Mosul: May; Baghdad: July.

385. *C. euphraticus* Borner. Same on *Euphrates ppoplar; Baghdad: April & July.

386. *C. leucomelas* Koch. Adults and nymphs feed on upper side of *Euphrates* poplar leaves, causing slight curling of margins; Baghdad: Aug; Diyala: Oct.

387. *C. niger group.* 1 Adults and nymphs feed on willow leaves; usually attended by ants; Mosul & Sulaimaniya: Aug.
388. *C. populeti* group. ¹ Same on willow and poplars; Mosul: June & Aug.

389. *C. truncatus* group. Same on willow; Amara: Aug.


391. *Cinara (Cupressobium) cupressi* Buckston. Adults and nymphs feed on twigs and branches of Oriental arborite; always attended by ants; Baghdad: undated.

392. *C. (Lachniiella) tuskfina* (Del Guer.). ¹ Same on Oriental arborite and Tamarisk; Baghdad: March & April.

393. *Dactylostus (Uroneid) carthami* H.R.L. Adults and nymphs feed on safflower leaves; Baghdad: March.

394. *D. cicorii* Koch. Same on lettuce; Diyala: Jan.

395. *D. faceae* (L.). Adults and nymphs feed on stems and leaves of *Centauria*; Erbil: July.

396. *D. sonchi* (Geof.). Adults and nymphs feed on young stems of lettuce, *Sonchus* and *Carthamus*; Mosul: April & May; Baghdad: Feb—June; Kut: March & April; Kerbala: April.

397. *Drepanosiphoniella* sp. ¹ Adults and nymphs feed on maple leaves; Sulaimaniya: May.

398. *Dysaphis plantaginea* (Pass.) (= *Anuraphis roseus* Baker). Adults feed on stems and young fruits of apple; nymphs on clusters of leaf and fruit buds; leaf curl results; Mosul: April.

399. *Eriosoma lanigerum* (Hausmann). ⁴ Adults and nymphs feed on roots, stems, branches and sometimes on leaves of apple; infested trees produce cankers on roots and branches; country-wide: year-round.

400. *E. lanuginosum* (Hartig). ⁵ Adults and nymphs feed on leaves and terminal growths of elm; infested trees produce large pocket-galls and close clusters of stunted leaves; Mosul & Sulaimaniya: May.
401. *E. ulmi* (L). 2 Same; Mosul: May.

402. *Eucarassia elegans* (Ferrari). Adults and nymphs feed on shoots, flowers and leaf undersurface of mint; Baghdad: April.

403. *Eulachnus* (*Protoeulachnus*) *tuberculostemmat* (Theob.). 2 Adults and nymphs attack pine needles, and encourage growth of sooty mold on honey-dew; Mosul: Jan & May; Sulaimaniya: May.

404. *Forda formicaria* Heyden. Adults and nymphs attack pistachio leaves which produce galls; in winter they feed on grass roots; Mosul & Sulaimaniya: undated; Erbil: July.

405. *F. hirsuta* Mordvilko. Adults and nymphs attack leaves of turpentine tree causing marginal leaf galls; Erbil: Oct.

406. *Goeke utricularia* (Passer.). 2 Adults and nymphs feed on young leaves of turpentine tree and wild pistachio which produce spherical red galls; Mosul & Sulaimaniya: Nov.

407. *Gobraishia pallida* (Hald.). Adults and nymphs feed on elm leaves which form galls in which they live; Mosul: May.

408. *Hyalopterus amygdali* (Blanchard). Adults and nymphs feed on undersurface of leaves of cherry and stone-fruit trees, and secrete honey-dew which prevents normal growth of the host; Baghdad: Dec—April; Hilla: April.

409. *H. pruni* (Geof.) (= *H. arundinis* (Fabr.)). Same on stone-fruit trees and reed; Mosul: April, May & Oct; Sulaimaniya: May—July; Baghdad: March—May & Nov—Jan; Kut, Amara, Diwaniya & Nasiriyah: March; Hilla: March & April; Basra: March & Oct.


411. *Lipaphis erysimi* (Kalten.). Adults and nymphs feed on leaves of tomato
and crucifers, causing chlorosis and leaf curl; country-wide: autumn-spring.

412. L. lepilinii (Nevsky). Adults and nymphs feed on leaf-axiles of cress and hary cress; Baghdad & Diyala: March.

413. Longiunguis donacis (Passer.). Adults and nymphs feed on reed leaves; Mosul: May; Baghdad: April.

414. L. sacchari (Zehnt.) (= Aphis sorghii Theob.). Same on sorghum; Baghdad: Nov.

415. Macrosiphoniella (Pyrethromyzus) sanborni (Cill.). Adults and nymphs feed on stems, buds and leaves of chrysanthemum; infestation prevents normal growth of flowers; Mosul: March & April; Baghdad: March—May & Oct—Dec; Amara & Basra: March.

416. Macrosiphum (Sitobion) avenae (Fabr.) (= M. granarium (Kirby)). Adults and nymphs feed on leaves and developing seeds of carrot, barley and wheat; Baghdad: Nov; Hilla: March.

417. M. euphorbiae Thomas. Same on wheat, barley and soybean; Mosul: April.

418. M. rosae. (L.). Adults and nymphs feed on terminal shoots and young leaves of rose and saw thistle, preventing normal growth of flowers; Mosul: May; Erbil: July; Baghdad & Basra: Feb—May.


420. M. castanecola group. Same on oak and wild pistachio; Sulaimaniya: May.

421. M. hoplochaitophorus group. Same on oak; Mosul: April.

422. Myzus (Nectarosiphon) persicae (Sulzer). Adults and nymphs attack young leaves of nearly all kinds of cultivated and wild plants, causing leaf curl and may transmit viral diseases; country-wide: year-round.
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423. *Pemphigus bursarius* (L) ( = *P. lactularius* Pass.) Adults and nymphs feed on young branches and leaf petioles of poplars; which form galls in summer they migrate to feed on roots of composite plants; Mosul & Baghdad: May.

424. *P. lichtensteini* Tuligreen. Adults and nymphs feed on leaves of poplars and willow, and live inside galls of poplar branches and willow leaves; Mosul: May; Erbil: Oct; Diyala: May & June; Baghdad: May, June & Dec.

425. *P. protospiraue* Lichten. Adults and nymphs feed and live inside galls on petioles of poplar; Mosul: May.

426. *P. (Forda) riccobonii* De Stefani; Adults and nymphs feed on leaves of wild pistachio and turpentine tree, and roll their margins where they live; red pocket galls are formed on leaves; Mosul: May & June; Sulaimaniya: Aug—Nov.

427. *P. vesicatorius* (Passer.). Adults and nymphs live inside poplar galls; Sulaimaniya: May.

428. *Phlocosmyia* sp. Adults and nymphs feed on sap of poplar stems and branches; Erbil: Sept; Baghdad: June.

429. *Pterochlorus (Pterochloroides) persicae* (Choldikovsky). Adults and nymphs feed on stems and branches of pome and stone-fruit trees, encouraging attack by sooty mold; Mosul: April; Erbil: Oct; Diyala: Jan & Sept; Baghdad: Jan—May & Sept; Ramadi & Kut: March.

430. *Rhopalosiphum maidis* (Fitch). Adults and nymphs feed on leaves, heart leaves, flowers and flower heads of cereals, legumes, tomato and sunflower; Mosul: Oct; Baghdad: Feb—May & Nov; Hillah, Kerbala, Diwaniya, Nasiriya & Basra: March.

431. *R. rufulidominus* (Sasakii). Adults and nymphs feed on leaves and roots of wheat, rice and reed; Baghdad: March.

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432. *Sappaphis (Dysaphis) apifolia* (Theob.). Adults and nymphs feed on leaves of parsley; Ramadi: Nov.

433. *S. foeniculcus* (Theob.). Same on celery; Baghdad: April.

434. *S. mali* (Ferrari). Same on apple, causing leaf curl; Mosul: May.

435. *Schizaphis (Tozoptera) graminum* (Hond.). Adults and nymphs attack blades and green ears of cereals and tomato; Diyala: March & May; Baghdad: Feb—May & Dec.; Hilla: March.

436. *Slaevum sp.* 1 Adults feed on dormant buds of oak and wild pistachio, causing the formation of red, cauliflower-like galls; Mosul: Nov.

437. *Smynturodes betae* West. Adults and nymphs feed on turnip roots and elm and pistachio leaves, causing the formation of leaf-galls; Mosul: May.

438. *Tetaneura africana* Goot. Adults and nymphs feed on rhizomes and roots of Bermuda grass; Baghdad: May.

439. *T. coerulescens* (Passer.). Adults and nymphs live in elm leaf galls; Mosul: May.


441. *T. gallarum* (Gmelin). Adults and nymphs live in elm leaf galls; North: May.

442. *Thelaxes confertae* Born. 2 Adults and nymphs feed on young leaves, acorns and cupules of oaks; infested acorns have brown walls, and prematurely fall down; Sulaimaniya: May, July, Aug & Oct.

443. *T. suberis* Del G. Adults and nymphs live in oak galls produced by *Andricus insana* (cf. 554); Mosul & Sulaimaniya: Oct; Erbil: July.

444. *Theroaphis trifolii* (Monell). 3 Adults and nymphs feed on alfalfa leaves; Baghdad: April.

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445. *Tubercolatus / Myzocallis* group. Adults and nymphs feed on young oak leaves which result in dwarf leaves; Sulaimaniya: May.

446. *Tuberculoides* sp. Same; this aphid produces edible manna; Erbil: July; Sulaimaniya: undated.


APHROPHORIDAE (CERCOPIDAE)

448. *Philaenus leucophthalmus* L. Adults and nymphs feed on stems and leaves of tomato; Mosul: Sept.

ASTEROLECANIDAE

449. *Asterolecanium* sp. Adults and nymphs feed on twigs and branches of oak; Sulaimaniya: Oct.


452. *A. phoenicis* Ramachandra-Rao. Adults and nymphs attack leaves and fruits of date-palms, causing general weakness of trees; less severe on fruits; Baghdad & Basra: year-round.

CICADELLIDAE (JASSIDAE)

453. *Balclutha hebe* Kirk. Adults and nymphs feed on leaf undersurface of grape; leaves show yellowish-white spots, become dry and finally fall down; Baghdad: March—June.

454. *Circuliifer tenellus* Baker. Adults and nymphs feed on beet leaves; vector of curly-top disease; Mosul: Jan, March, April, July, Oct & Nov.

455. *Empousca* sp. Adults and nymphs feed on leaf undersurface of sesame and broad bean; leaves show yellowish-white spots, become dry and
finally fall down: Baghdad: Oct & Nov.

456. *Erythroneura* sp. 6 Same on grape.

**CICADIDAE**

457. *Cicadatra alhageos* (Kolenati) (= *C. viridissima* (Walk.)). Adults attack young stems and twigs of loquat by splitting bark for oviposition; nymphs feed on roots; Mosul: April & July; Erbil & Sulaimanîya: Aug; Baghdad: Feb.

458. *C. fraseri* China. Same; host unidentified; Baghdad: July.

459. *C. glycyrrhiza* Kolenati. Same on grape; Erbil & Sulaimanîya: Aug; Baghdad: July.

460. *C. musiva* Germ. Same on an unidentified weed; Erbil: Jan.

461. *Magicicada septendecim* L. 1 Same on sugar-beet; Mosul: June & July.

**CICIDAE**

462. *Olearus pallens* Germ. Adults feed on stems and leaves of sugar-beet, rice and other cereals; nymphs on roots; Diwaniya: Sept.

**COCCIDAE**

463. *Anapulvinaria (Pulvinaria) pistaciae* (Bodenh.). Adults and nymphs attack young twigs, fruits and leaves of pistachio; infested parts become dry and fall down; Mosul: April-Nov.


465. *Cerothesias ruscii* (L.). Adults and nymphs attack twigs, leaves and fruits of fig, oleander and myrtle; Baghdad: May.

466. *Coccus hesperidum* L. Same on fig, oleander and citrus; damage results
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from honey-dew and sooty mold; chlorosis results and finally both leaves and fruits fall down; Baghdad: Oct.

467. Eulecanium bituberculatum Targ.—Tozz. Adults and nymphs attack twigs and branches of pome and stone-fruit trees.

468. E. citatum Douglas. Same on hawthorn; Erbil: Oct.

469. Parthenolecanium sp. Premature females feed on small oak trees; Sulaimaniya: May.

470. Pulvinaria sp. Premature females feed on trunk, young shoots and leaves of poplar.


CONCHASPIDIIDAE


DIASPIDIDAE

474. Abgrullaspis (Diaspidiotus) ephedrarum Lind. Adults and nymphs feed on Ephedra stems; Sulaimaniya: Oct.

475. Acanthomytthus (Mytilococcus) intermittens Hall. Adults and nymphs feed on leaves and twigs of Eragrostis; Baara: Oct.

476. A. huricicus Bodenh. Adults and nymphs feed on twigs and leaf undersurface of maple; Erbil & Sulaimaniya: Oct.

477. Aonidiella (Chrysolomphalus) orientalis (Newst.). Adults and nymphs attack twigs, leaves and fruits of date-palm, olive, poplar, citrus and sissoo; chlorosis results and both leaves and fruits fall down; Baghdad, Ramadi, & Kut: Feb, April, July & Oct.
478. *Aspidiotus (Quadraspidiotus) perniciosus* Comst. Nymphs feed on bark, terminal buds and around blossom causing chlorosis and vigour-decrease.

479. *Aulacaspis rosae* (Bouche). Adults and nymphs attack rose twigs.

480. *Chionaspis engediensis* Bodenh. Adults and nymphs feed on leaves of *Tamarix* which fall down later; Sulaimaniya: Oct; Basra: July & Oct.

481. *Chrysothrips dictyospermi* (Morg.). Adults and nymphs feed on leaves and fruits of citrus.

482. *Coccomytilus sureyanus* Bodenh. Adults and nymphs feed on twigs and branches of *Acantholimon* and *Astragalus*; Mosul & Sulaimaniya: Oct.

483. *Diaspidiotus caucasicus* Borkh. Adults and nymphs feed on twigs of young Euphrates poplar; Mosul & Baghdad: undated.

484. *D. herzlilatus* Bodenh. Adults and nymphs feed on *Ephedra* stems; Mosul, Sulaimaniya & Kirkuk: Oct.


486. *Hemibertesia (Diaspidiotus) lataniae* (Sign.). Adults and nymphs feed on mulberry leaves; Ramadi: Oct.


488. *Lepidosaphes (Mytillococcus) beekii* (Newm.). Adults and nymphs feed on twigs, leaves and fruits of citrus.

489. *L. conchiformis* (Gmelin). Adults and nymphs feed on twigs and branches of fig.

490. *L. ficus* (Sign.). Same as in 489.

491. *L. juniperi* (Lind.). Adults and nymphs attack needles and fruits of juniper; Mosul: Oct.
L. minimus (Newst.). Adults and nymphs attack twigs, branches and leaves of fig; Baghdad: Oct.

L. pistaceae Archang. Same on maple and turpentine tree; Erbil & Sulaimaniya: Oct.

L. ulmi (L). Adults and nymphs attack trunk, branches and fruits of pome and stone-fruit trees; growth retardation may result; Mosul: Nov; Sulaimaniya: Oct.

Leucuspis pusilla (Loew). Adults and nymphs attack pine needles which become chlorotic and may fall down; Mosul: March, Aug & Oct.

Melanaspis (Aonidiella) inopinata (León). Adults and nymphs attack trunk and branches of pistachio, apple, almond and walnut, and produce cavities in young branches.

Mytilococcus sanduri Bodenh. Adults and nymphs attack blades of Andropogon; Mosul: Oct.

Nilotsaspis (Mytilococcus) bicuspis (Hall.). Adults and nymphs attack twigs and branches of Tamarix; Basra: Oct.

N. (Coccomytilus) halli (Green). Same on pome and stone-fruit trees; Mosul, Sulaimaniya & Baghdad: Oct.

N. (Coccomytilus) isis (Hall.). Same on Tamarix; Basra: Oct.

Parlatoria blanchardi (Targ. - Tozz.). Adults and nymphs attack leaves of date-palm; the tree is weakened, and both quality and quantity of crop are reduced; Baghdad & Basra: year-round.

P. morrisoni McK. Adults and nymphs attack trunk, branches, leaves and fruits of citrus, leaving scales and red spots on sites of feeding.

P. (Syngonaspis) oleae (Clovee) ( = P. calianthina Berl. & Leon). Same on olive, citrus, pome and stone-fruit trees; Mosul, Erbil & Sulaimaniya: Oct.
504. *Phenicococcus marlatti* Ckll. Adults and nymphs attack leaf bases and trunk of date-palm; Baghdad: March—July; Basra: Oct.

505. *Quadraspidiotus populii* Bodenr. Adults and nymphs feed on twigs, branches and leaves of Euphrates poplar; Baghdad: Oct.


508. *Salicicola archangelskajae* Arch. (= *Leucaspis cratigi* Bodenr.). Same on hawthorn; Erbil & Sulaimaniya: Oct.

509. *S. kermanoensis* Lind. Adults and nymphs feed on twigs, branches and young stems of poplars and willow; Erbil: March-Aug; Baghdad & Basra: Oct.


511. *Targionia vitis* Sign. Adults and nymphs feed on oak branches and leaves; Sulaimaniya: Oct.

**Kermesidae (Kermidae)**

512. *Kermes* sp. Adults and nymphs feed on young twigs and branches of oak; Erbil: May; Sulaimaniya: Aug.

**Orthozizidae**

513. *Orthoziza urticae* L. Adults and nymphs feed on twigs and leaves of *Astragalus*; Sulaimaniya: Oct.

**Pseudococcidae**

514. *Acanthococcus (Eriococcus) aceris* (Sign.). Adults and nymphs feed on leaves and tender twigs of maple and sycamore; Erbil: Oct.
515. *Antonina graminis* Mask. Adults and nymphs attack leaf axiles of Bermuda grass, causing chlorosis and death of plant; Baghdad: Sept.


517. *Eriococcus mumtazi* Bodenh. Adults and nymphs attack leaves of grasses; Mosul & Erbil: Oct.

518. *E. teucriicolus* Bodenh. Adults and nymphs attack twigs and branches of *Teucrium*; Mosul: Oct.

519. *Nipaecoccus vastator* (Mask.). Adults and nymphs attack young twigs, buds, leaves and fruits of citrus, grape, fig, rose, pome and stone-fruit trees; abnormal dwarf fruits result; Diyala, Baghdad & Kerbala: May, June, Sept & Oct.

520. *Phenacoccus aceris* Sign. Adults and nymphs attack trunk, twigs, buds and leaves of sycamore; Erbil & Sulaimaniya: Oct.

521. *P. basorae* Bodenh. Adults and nymphs feed between stem and leaf sheath of Bermuda grass; Basra: Oct.

522. *P. euphorbiaefolius* Bodenh. Adults and nymphs feed on upper surface of *Euphorbia* leaves; Sulaimaniya: Oct.


525. *P. radii* Bodenh. Same on Alhagi; Basra: Oct.

526. *Pinnacoccus citri* (Riss). Adults and nymphs feed on aerial and subterranean parts of mulberry, grape and pomegranate, and secrete honey-dew on which dust and sooty mold accumulate; Mosul & Baghdad: Oct.

527. *P. ficus* Sign. Same on fig; Baghdad: Sept.
528. *Pseudococcus parietaria* Bodenh. Adults and nymphs attack *Parietaria* leaves; Erbil: Oct.


531. *Epitrix imperatae* Hall. Adults and nymphs feed on reed stems; Mosul: Oct.


**PSYLLIDAE (CHERMIDAE)**

533. *Agonoscena targinii* (Licht.). Adults and nymphs attack leaves and fruits of pistachio.

534. *Camarotoscena hoeverlandii* Vondr. Adults and nymphs attack leaves and shoots of poplar, causing leaf curl and shoot deformation; Mosul: Aug & Sept; Sulaimaniya: undated.

535. *C. speciosa* Flor. Adults and nymphs feed on upper surface of young poplar leaves, causing inward leaf roll; rolled parts swell and turn red; Erbil: May—Dec.

536. *Egregiurotica* sp. Adults and nymphs attack young twigs of Euphrates poplar and willow; infested apices of young twigs swell; Mosul & Baghdad: Nov.

537. *E. ceard* Berg. Adults and nymphs feed on leaves of Euphrates poplar, causing the formation of thick-walled, green-to-black small galls on both leaf surfaces; Erbil: June—Nov; Diyala & Baghdad: April.

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539. *Triozet* sp. Adults and nymphs feed on twigs of young Euphrates poplar trees, causing irregular swellings of infested parts; infested bark around each individual insect is discoloured; Mosul & Baghdad: undated.

**TROPIDUCHIDAE**

540. *Ommatidius (Ommatidius) binotatus* Fleb. Adults and nymphs feed on leaves of date-palm, and secrete honey-dew which prevents normal growth of leaves and fruits, and delays fruit ripening; Middle & South: May, June, Sept & Oct.

**HYMENOPTERA**

**AGAONTIDAE**

541. *Blastophaga psenes* (L). Pollinates female fig flowers; Salamaniya: May.

**APIDAE**

542. *Apis mellifera* L. Workers pollinate flowers of various species of flowering plants and produce honey and wax; North: spring-autumn; Middle: year-round.

543. *Prosopis* sp. Adults emerge from cut branches of pistachio heavily-infested with *Octodesmus* and *Chlosiontelus vestitus* (cf. 47 & 255); Mosul: May.

544. *P. cornuta* Sm. Same; Mosul: May.

545. *Xylocopa violacea* L. Adults cut long tube-like tunnels in dry wood of walnut, where they build their breeding cells; Mosul: June.

**CEPHIDAE**

546. *Cephus pygmeus* L. Larvae dig down stem of wheat, barley and rye until
they reach near soil level; there, they make holes in stem base in which they hibernate; infested stems may break, and seeds do not ripen; Ramadi: March.

547. *C. tabidus* (F). Larvae stem borers of wheat, barley and corn; Baghdad: March.

**CYNIPIDAE**

548. *Andricus (Cynips) copui-medusae* (Hartig). Larvae attack apical buds of oak which produce very large, solitary, green-to-white, medusae-shaped galls; Mosul & Sulaimaniya: Feb & March.

549. *A. cecconi* Keif. Larvae feed on staminate flowers of oak, replacing them by gregarious, flat, green-to-red galls, 5—13 mm diameter; Mosul: April; Sulaimaniya: May.

550. *A. coriaria* Hart. Larvae feed in terminal and lateral buds of oak which produce gregarious green, broad-based galls, 20—30 mm diameter, tapering to blade-like point; Mosul & Sulaimaniya: Dec & Jan.

551. *A. gallae-tinctoriae* (Oliv.). Larvae feed in lateral and sometimes terminal buds of oak which produce large, spherical galls with irregularly-ridged surface; these are the *Afus* galls, of commercial value; Mosul & Sulaimaniya: Oct & Nov.

552. *A. grosulariae* (Gir.). Larvae feed in staminate flowers of oak, replacing them by solitary, pear-shaped galls, 3—5 mm diameter; Mosul: April; Sulaimaniya: May.

553. *A. hartigi* Hart. Larvae feed in lateral buds of oak which produce solitary or paired, yellow-to-brown galls of rubber-like texture, 20—30 mm diameter, directly attached to shoot; stellate forms with very short blunt spines; Mosul & Sulaimaniya: Feb & March.

554. *A. insana* (Westwood). Larvae feed in terminal and lateral buds of oak
which produce large, short-stalked, solitary, yellow-to-reddish brown
galls, 20—35 mm diameter; Mosul & Sulaimaniya: Feb & March.

555. *A. kollari* (Hart.). Larvae feed in leaf petioles of oaks which produce
large, round, solitary, green-to-orange brown galls, 6—15 mm diameter;

556. *A. lucidus* Hart. Larvae feed in lateral buds of oak which produce
gregarious, sessile, spherical, green-to-white galls, 10—20 mm diameter;
Sulaimaniya: May.

557. *A. multiplivatus* (Gir.). Larvae feed in open buds of oaks causing leaf
and petiole deformation, which result in green bushy shoot that turns
brown when leaves die; Mosul & Sulaimaniya: March & April.

558. *A. seckendorfii* Wacht. Larvae feed in lateral buds of oak which produce
gregarious, stalked, spherical green galls, covered with short papillae;
galls 15—30 mm diameter each; Mosul: March & April.

559. *A. tomentosa* Trost. Larvae feed in lateral buds of oak which produce
gregarious, velvety-surfaced, white galls; each gall has 10—20 mm dia-
meter resembling an inverted cone; Mosul: March & April.

560. *Aphelonyx cervicola* Gir. Larvae feed in twigs of oaks which produce
solitary (or in small groups), spherical, large, hairy, green-to-brown
galls, 7—14 mm diameter; Mosul & Sulaimaniya: Oct—Dec.

561. *Chilaspis nitida* Gir. Larvae feed on leaves of oak which produce
gregarious, small, globular galls on their undersurfaces; also feed on
staminate flowers, replacing them by large, hairy, mulberry-like galls,
up to 30 mm diameter each; Mosul: April & Nov—Jan; Sulaimaniya:
May & Nov—Jan.

562. *Cynips quercusfolii* L. Larvae feed on lower surface of oak leaves
which produce solitary and gregarious, spherical galls; each 10—20 mm
in diameter, yellow-to-red, with wrinkled surface when mature; Mosul &
Sulaimaniya: Jan & Feb.
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563. Neuroterus glandiformis Gir. Larvae live in oak fruits causing very early development of acorn; acorn galls are solitary, green, 6–8 mm diameter each; Mosul & Sulaimaniya: May & June.

564. N. lanuginosus Gir. Larvae feed on lower surface of oak leaves which produce gregarious, small, globular galls; each 3–8 mm in diameter, covered with dense, apically-white hairs; Mosul & Sulaimaniya: March & April.

565. N. macropterus Hart. Larvae feed on apices of young twigs of oak which produce large, swelled galls, 5–60 mm diameter each; larvae arranged in concentric cells; Mosul & Sulaimaniya: March & April.

EURY TOMIDAE

566. Eurytoma amygdali End. Larvae dig in fruits and seeds of almond, apricot and plum, causing them to split; Mosul & Baghdad: April; Erbil: March.

567. Harmolita tritici Fitch. Larvae dig inside wheat stems which produce galls above nodes that break later.

FORMICIDAE

568. Camponotus compressus (F). Workers in bee hives and stores; feed on and contaminate sugary food; Diyala & Nasiriya: April; Baghdad: Feb–Dec; Hilla: Nov.

569. Dorylus (Typhlops) julius (West). Same on stored food; Mosul & Diyala: Aug; Baghdad: Feb–April & Dec; Kerbala: Nov.

570. Messor barbarus L. Same in bee hives and on stored food; Mosul: Feb & Nov; Baghdad: Nov–March; Basra: Jan.

571. Pheidole megacephala F. Same on stored food; Baghdad: May & June.

572. Polyrhachis simplex Meyr. Same as above.
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MEGACHILIDAE

573. *Megachile argentata* F. Adults cut green leaves of rose to construct their nests in soil or rotten wood; Baghdad: Oct & Nov; Basra: undated.

574. *M. flavipes* Spin. Same; Baghdad: Oct & Nov; Basra: undated.


576. *M. robusta* Fab. Same on *Robinia* to construct their nests in soil or wood infested by *Clytus rhamni* (cf. 117); Baghdad: Oct & Nov; Basra: undated.


VESPIDAE

578. *Polistes foederatus* Kol. Workers feed on ripe dates, grapes and other fruits; country-wide: summer.

579. *P. gallicus*. Same; Erbil: July; Baghdad: April, Nov & Dec.

580. *P. hebroeus* F. (= *P. maccensis* (F.)). Same; Diyala: April—Dec; Baghdad: March—Oct; Hilla: April; Basra: Dec.

581. *P. nymphica* Chr. Same; Basra: undated.

582. *Vespa orientalis* L. Workers feed on ripe fruits and dead flesh (cf. 1061); Erbil: July; Diyala: April & Dec; Ramadi: Sept—Nov; Kut: June—Oct; Kerbala: Nov; Hilla & Diwanlya: Jan & Oct.

583. *Vespula germanica* F. Same on ripe grapes, dates and other fruits; Mosul; Sept, Nov & Dec; Erbil: Aug.

ISOPTERA

HODOTERMITIDAE


586. *A. (Hodotermes) vagans* (Hagen). 2 Same; Ramadi & Basra: March.

**RHINOTERMITEIDAE**


**TERMITIDAE**

588. *Amiitermes vitis* (Hagen). 2 Workers feed on roots and stems of live and dead plants, and damage timber; Baghdad: undated.

589. *Microcerotermes diversus* Silvestri. 1 Workers feed on live wood of *Acacia*, *Eucalyptus* and *Casuarina*, causing death of infested trees; also on building wood, furniture and paper; Baghdad: March—Oct.

590. *M. gabrielis* Weld. 4 Workers feed on live and dead wood of sycamore and *Eucalyptus*; Erbil, Kirkuk, Ramadi & Nashriya: Feb—April.

**LEPIDOPTERA**

**ARCTIIDAE**


592. *Utetheisa pulchella* L. 2 Larvae defoliate sesame, cotton and hemp; country-wide: May—Nov.

**BOMBYCIDAE**

593. *Bombyx mori* L. 2 Larvae feed on mulberry leaves, and spin silk cocoons of commercial value; North & Middle: March—May.
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COLEOPHORIDAE (CECOPHORIDAE)

594. Coleophora limosipennella Dup. 2 Larvae feed on young leaves of apple; Baghdad: spring.

COSMOPHYGIDAE

595. Anatrachyntes cortacella Sn. (= Pyroderces simplex Wims.). 3 Adults breed, and larvae feed within fallen and damaged cotton bolls; Baghdad: undated.

COSSIDAE

596. Cosus (Trypanus) cosus L. 1 Larvae wood borers of willow; Mosul, Erbil & Sulaimaniya: June.

597. Dyspessa ulula (Borkh.). 3 Larvae dig through bulbs of onion and garlic; North: June, July & Sept.

598. Dyspessacossus feridum Gr. - Csh. 3 Larvae are wood borers of willow; Erbil: May & June.

599. Zeuzera pyrina L. 4 Larvae bore through stems of young apple, walnut and almond trees, and branches of old ones; infestation facilitates entry of fungi; North: June & July.

600. Z. regina Strg. 3 Same; North: June & July.

DANAIDAE


GELECHIIDAE

602. Anacampsis dusa Mee. 3 Larvae roll oak leaves, and each one lives and feeds singly within; Mosul: May, June & Aug.
603. *Anarsia aleurodes* Meyr. Larvae feed on poplar leaves which produce galls; Hilla: undated.

604. *A. lineatella* Zell. Larvae bore through twigs and ripe and unripe stone-fruits causing their rot and decay; attacked young fruits shrivel and die while on mature ones gum accumulates on the site of attack; Baghdad: May-July.

605. *Pectinophora (Platyedra) gossypiella* (Saund.). Larvae feed on flower buds, bolls and seeds of cotton, okra and other Malvaceae; blossom fails to open; North & Middle: spring-summer.

606. *Phthorimaea ergasina* (Meyr.). Larvae are leaf miners of eggplant.

607. *P. (Gnorimoschema) operculella* Zell. Larvae are leaf miners and stem borers of potato, tobacco and pepper in the field, and potato tuber borer in store; Mosul: Sept & Oct; Baghdad: Nov—July; Hilla: March.

608. *Platyedra vittella* (Zell.). Larvae attack buds, bolls, seed pods and young stems of hollyhock, cotton and other Malvaceae.

609. *Pseudotelea squamodorella* Ams. Larvae feed on leaves of Euphrates poplar; Mosul: Sept; Baghdad: March.

610. *Recurvaria pistaciaeola* (Danil). Larvae attack young fruits of pistachio causing them to shrivel and fall down in large numbers; Mosul: April.

611. *Scrobipalpa (Gnorimoschema) ocellatella* Boyd. Larvae bore through leaf petioles to stems, roots and terminal growths of sugar-beet; Sulaimaniya: Aug & Sept.

**GLYPHPIPTERYGIDAE**

612. *Simaethis (Hemerophila) nemorana* Hubn. Larvae feed on fig leaves and, sometimes on young fruits; North: April.
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GEOMETRIDAE

613. Gymnoscelis pumilata Hubn. Larvae feed on leaves and flowers of bean; North: July.

614. Nyctohcles variabilis Brant. Same on almond and apricot; North: May-July, Sept & Oct; Middle: March.

615. Osloborhiza externa H.-S. Same pistachio; North: April & May.


GRACILLARIDAE

617. Acrocercops confusa Meyr. Larvae mine through leaves of castor bean and injure young plants; Baghdad: June.

618. Lithocolletis sp. Larvae feed on apple leaves, forming central blisters; Middle: March.

619. Phytothromycor corylifolii Heaw. Larvae are leaf miners of apple; one or two larvae per leaf may exist; Middle & South: warm seasons.

HESPERIIDAE

620. Carcharodus alcaceae Esp. (= C. malvarum Hoff.). Larvae roll leaf margins of hollyhock and other Malvaceae, and feed within; Erbil: April & July; Sulaimaniya: Sept; Diyala: Feb, April, June, July & Oct; Baghdad: Aug—Nov.

621. Pelopidas thrax (Hubn.). Larvae feed on leaves of sugarcane, rice and other cereals; Middle: summer.

LASIOCAMPIDAE

622. Chilena proxima Stgr. Same on Prosopis; Erbil, Kirkuk, Diyala & Kut: May & Aug; Baghdad: May.
623. *Eriogaster philippi* Bart. Same on oak; Erbil: undated.

624. *Lasiocampa grandis* L. Larvae feed on oak trees and heavily defoliate them; Mosul: Sept.

625. *Pachypsa otus* (Drury). Larvae feed on leaves of oak, juniper, cypress and pistachio; Mosul: June & July.

626. *Streblote (Nadiaea) siva* Lef. Same on apple, pomegranate, willow, *Zizyphus, Tamarix* and *Eucalyptus*; Middle & South; March—Dec.

**LYCAENIDAE**

627. *Lampides (Cosmolyca) boeticus* (L.). Larvae feed on leaves, buttons, flowers and seeds of bean, broad bean and other legumes; country-wide: Feb—Dec.


629. *T. theophrastus* (F). Same; Baghdad: Nov; Basra: March.

**LYMANTRIIDAE**

630. *Euclertia (Prothesis) melanica* (Stand.). Larvae attack young buds of oak and wild apple first, then skeletonize leaves, and, finally defoliate the tree completely.


632. *Ocneria (Lymantria) dispar* L. Same on oak and poplar; North summer.


634. *O. pereidethina* Stgr. Larvae are leaf skeletonizers of wild pistachio; North: June & Sept.
635. *Oneroglyca amanda* Stgr. 4 Same on fig; North & Middle: June & July.

636. *Paracnemeris raddei* Christ. Larvae feed on leaflets of wild pistachio, leaving midribs only; partial defoliation results; Mosul: June; Erbil: July.

**LYONETIDAE (PHYLLOCNISTIDAE)**

637. *Bedellia somnulentella* (Zell.). 3 Larvae are leaf miners of *Taraxacum*; Baghdad: March.

638. *Bucculatrix* sp. First-instar larvae mine through *Zizyphus* leaves.

639. *Kermaria pistaciella* Amsel. Larvae feed beneath bark of pistachio; Mosul: May.

640. *Phyllocnistis* sp. 1 Larvae mine through young leaves of poplars; Erbil: May.

641. *P. citrella* Staint. 3 Same on citrus; Basra: undated.

**MOMPHIDAE**

642. *Batrachedra amydralis* Meyr. 4 Larvae feed in soft seeds of dates and tissues around; infested dates cease to grow, gradually dry, turn light red and finally fall down; one larva may attack more than one fruit; Middle & South: April—July.

643. *Pyrodorus philocarpa* Meyr. 2 Larvae feed inside fallen dates; Baghdad: April.

**NOCTUIDAE**

644. *Agrotis* sp. Larvae cut off young plants of tomato, potato, tobacco, beet and turnip at soil level; Baghdad: Feb—April.

645. *A. exclamationis* L. 3 Larvae feed on roots and stems of cabbage, lettuce, sugar-beet and root crops, and cut off young plants at soil level; fungi
may get entry through cuts and cause rot and decay; North: spring & autumn.

646. *A. herzogi* Rebel. (= *A. hoggari* Roths.). Larvae feed on grape roots and cut off newly-transplanted plants at soil level; Middle & South: Nov—March.


650. *Anua tirhaca* Cr. Larvae feed on myrtle leaves; Baghdad: Jan, March, May & Nov.

651. *Apatele aceris* L. Same on poplar; Middle: April, May & Oct.

652. *A. rumicis* L. Same on water mint and *Prunus*; North: spring & summer.

653. *Arcyphora (Euzestis) dentula* Led. Same on pomegranate; Middle & South: July—Oct.

654. *Autographa (Plusia) gamma* L. Same on cotton, cabbage, potato, poppy, lucerne and nettle; North & Middle: winter-spring.

655. *Caradrina clavipalpis* Scop. Same on wheat and other cereals; country-wide: early summer & autumn.

656. *Catocala elocata* Esp. Same on poplar and willow; North & Middle: June & Oct.


659. *C. optima* Stgr. Same on poplar; Baghdad: June.
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660. C. purepera Glorn. Same on poplar and willow; North & Middle: June & Oct.

661. Dicyclos ov L. Same on oak; Mosul: May.

662. Dysgonia torrida (Guen.) (= D. albivittata Guen.). Same on pomegranate and bramble; North & Middle: April & Oct.

663. Earias insulana Boisd. Larvae feed on growing tips, flower buds, bolls, and seed pods of cotton, okra, dwarf mallow and hollyhock causing their destruction; country-wide: year-round.

664. Exaesi (Agrotis) conspicua Hubn. Larvae attack germinating seeds, stems and roots of young tobacco, cabbage, beet and cereals at soil level; North & South: April, May, Sept & Oct.

665. Hadjina viacosa Frr. Larvae feed on Pluicne leaves; South: year-round.

666. Helioclines armigera Hubn. (= H. obsolenta F.). Larvae bore through cotton bolls, tomato fruits, corn ears and safflower leaves; Baghdad: March—June.

667. H. (Chloridea) subigera H.—S. Larvae feed on leaves and young fruits of tomato, tobacco, water-melon and other cucurbite; North & Middle: April & June—Nov.

668. H. petigera Schiff. Larvae feed on leaves and buttons of cotton, tobacco, sunflower and chick pea; country-wide: May—July & Nov.


670. Hypoglaucita benenotata Warr. Larvae feed on Tamarix leaves; Basra: March—May.

671. Leucania (Mythimna) loryi (Dup.). Larvae feed on terminal growths of corn, sorghum and other cereals; country-wide: May—Aug & Nov.


676. *Pandemis enysa* Guen. * Larvae are nocturnal feeders of Euphrates poplar leaves; by day, they hide beneath bark; Kut: May; Amara: May & June.

677. *Parallela (Dysgonia) algira* (L). Larvae feed on leaves of pomegranate and bramble; Amara: Aug; Basra: June.

678. *P. geometrica* F. * Same on bramble; Baghdad & Basra: July; Amara: Oct.

679. *Phlogophora meticulosa* L. * Same on beet and lettuce; North: autumn.


682. *P. (Trichoplusia) ni* Hubn. (*= Autographa brassicae* Riley). Larvae feed on leaves of cabbage and cauliflower, resulting in stunted growth of cabbage heads; Mosul: April; Diyala: March.

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684. *Sesamia nonagrioides* Lef. Larvae bore straight through young, rolled and unopened leaves of corn, sorghum and sugar cane, and through stalk and corn ears; Baghdad: June, July & Oct; Diyala: April.

685. *S. nonagrioides* Lef. Larvae feed inside rice stalk and cause death of its upper portion; Diyala: April.

686. *S. nonagrioides* Lef. Larvae feed on leaves, flowers and flower buds of weeds and grasses; North & Middle: April—Nov.

687. *S. (Laphyrgma) exigua* Hubn. Young larvae web up top shoots of cotton, sugar-beet, alfalfa, broad bean, sunflower, okra, celery and Bermuda grass; mature larvae defoliate host plant, and, sometimes attack fruits and cotton bolls; country-wide: March—Nov.

688. *S. litoralis* (Boisd.) ( = *Prodenia litura* F.) Larvae feed on leaves, flowers and flower buds of cotton, castor bean, peanut and green gram; Middle & South: April—Nov.

689. *Smyrnapha circumflexa* L. Larvae feed on leaves of vegetables and garden flowers; country-wide: spring, autumn.

690. *Tryptaena pronuba* L. Same; Diyala & Kerbala: Feb & April.

691. *Xanthodes grallisi* Feltsh. Same on cotton, okra and other Malvaceae; Middle & South: April—July & Oct.

692. *Xylena exsulata* (L.) Larvae feed on leaves and topshoots of flax and legumes; North: April; Baghdad: March, Oct & Nov.

**NOTODONTIDAE**

693. *Cerura vinula* L. Larvae feed on poplar leaves; Mosul & Diyala: April & Sept.

**NYMPHALIDAE**

694. *Polygona egea* Cr. Same on *Parietaria*; Mosul: April.
695. *Vanessa (Pyrameis) cardui* L. \(^2\) Same on *Malva*, mint, artichoke and tomato; country-wide: spring, autumn.

**OLETHREUTIDAE**

696. *Hedyia neubiferana* (Haw.) ( = *Argyroloce voriegana* (Hubn.) ). Larvae skeletonize quince and hawthorn leaves; also attack flowers and buds.

697. *Laspeyresia pomonella* (L.). \(^4\) Larvae feed inside apple, pear and walnut fruits; North & Middle: March—Oct.

698. *Lobesia botrana* (Schiff.). Larvae feed on flowers and fruits of grape causing fruit rot; Baghdad: June & July.

**PAPILIONIDAE**

699. *Iphiclides podalirius* L. \(^2\) Larvae feed on leaves of apple, almond, wild pear and other Rosaceae; Sulaimaniya: July.

700. *Papilio demoleus* L. \(^3\) Larvae feed on growing tips and young leaves of citrus; Baghdad & Hilla: Sept—Nov.

701. *P. machaon* L. \(^3\) Larvae feed on leaves of rue and dill; North & Middle: March—Nov.

**PHYCITIDAE (PYRALIDAE)**

702. *Ectomyelois ceratoniae* Zell. \(^3\) Larvae bore through young fruits of pomegranate, apple, orange, almond, walnut and dried fig causing fruit rot; Sulaimaniya: April; Diyala, Baghdad, Ramadi, Hilla & Kerbala: April—Nov.

703. *Ephesia cautella* Walk. \(^4\) Same; Middle & South: March—Nov.
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705. E. drosontella Rich. & Th. * Same; Middle & South: year-round.

706. E. erasellla Hubn. * Same; Middle & South: year-round.

707. Myelasia phoenicis Durr. Larvae feed on dates; Middle & South: July—Sept.

708. Phytophila diaphana Stgr. * Larvae roll leaves of Euphrates poplar and castor bean, and feed within; also attack inflorescence and destroy seeds; Middle: summer-autumn.

709. Plodia interpunctella (Hubn.). * Larvae feed on ripe, fallen, harvested or stored dates; also feed on dried fruits and cereal products; Middle & South: year-round.

PIERIDAE

710. Aporia crataegi L. * Larvae feed on leaves of apple, pear and cherry; Erbil: June; Sulaimaniya: May.

711. Catopsilia florellia F.* Same on Senna and Cassia; South: March—April.


713. Colotes fustus Oliv. * Same on Capparis; Diyala: July; Baghdad: June—Dec; Amara: Sept—Dec.


715. Pieris (Mameiopeltis) brassicae L. * Larvae feed on foliage, especially heart leaves of cabbage and other crucifers; growth retardation or cessation results; North: Nov—Jan.


717. P. rapae L. * Same; country-wide: Nov—June.
718. *Pontia daplidice* L.¹ Same; Mosul: June; Diyala: year-round; Amara: 
April & May.

PTEROPHORIDAE

719. *Trichoptilus congruallis* Walk.¹ Larvae live and feed inside bud galls 
of oak caused by *Andricus caput-medusae* (cf. 548); Sulaimaniya: Aug 
& Sept.

PYRALIDAE

720. *Acrobasis tumidana* D & S.³ Larvae tie together leaves of young shoots 
of oak in which they feed and pupate; Sulaimaniya: June.

721. *Aglossa pinguinalis* L.³ Larvae feed on dried cereal seeds and refuse; 
Baghdad: March & April.

722. *Antigastra catalausalis* Dup.³ Larvae feed on leaves, terminal buds, 
flowers and seed pods of sesame; North: Aug—Nov.

723. *Arenipses sabella* Hamps.⁴ Larvae feed on blossom of date-palm, first 
prior to- and during pollination, then inside fruits; infested dates become 
dry; Middle & South: March—Oct.

724. *Chilo suppressalis* Walk. (= *C. simplex* (Buttl.), *C. oryzae* (Flet.) ).³ 
Larvae are stem borers of rice, corn and sorghum; Amara: April.

725. *Cornifrons ulceratellis* Led. Larvae feed on sesame leaves; Middle 
(desert): March, April & Nov.

726. *Diorystria mendacella* Staud.⁴ Larvae attack pine cones causing partial 
to complete destruction of cones; Mosul: June—Oct.

727. *D. pineae* Staud.⁴ Same; Mosul: June—Nov.

728. *Euzophera batangensis* Caradja.² Larvae feed inside walnut fruit which 
turns brown; fruit coat usually shrinks; Mosul: Sept; Erbil: Oct & Nov.

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729. *E. villoa* Feld. Larvae feed on stem pulp of eggplant, and axiles of its lower leaves; chlorosis and weakness of severely infested plants result; South: March & April.


731. *Helcla undalis* F. Larvae feed on leaves of cabbage and turnip, and bore through stems and heads; country-wide: March—Oct.

732. *Hyemeta fascialis* Z. (= *H. recurvalis* F.) Larvae feed on leaves of beet and root crops; Middle & South: Oct & Nov.

733. *Hypospygia costalis* F. Larvae feed on stored clover; North: June-Aug.

734. *Lepidagyna obratalis* Chr. Larvae tie small branchlets of *Tamarix* together and feed within; Basra: March—May, Aug & Sept.


736. *Ostriola (Pyrausta) meridionalis* Stgr. Larvae feed in stem of wild mint; North: May—Oct.


738. *Pyrausta furtalis* L. Larvae feed on dry cereal seeds and refuse; Erbil: May; Baghdad: Oct.

739. *Pyrausta aurata* Scop. Larvae in mint stem; Baghdad: April.

740. *P. cespitalis* Schiff. Same on *Plantago*; Amara: March & April.


742. *Udea rubigalis* (Guen.) (= *Phlyctaenia ferrugalis* Hubn.). Larvae feed on tender growths of cabbage and lettuce just above heart, and cover
leaves with web and excrement; when ready to pupate they roll leaves and fasten their margins with web; Baghdad: March.

SATURNIIDAE

743. Perisomena caesigena Kupido. Larvae feed on oak leaves; Mosul: Nov.

744. Saturnia pyri Schiff. Same on apple and willow; North: April & May.

SCYTHRIDAE

745. Syringopais (Sycythis) temperatella Led. Larvae mine through leaves of wheat, barley and other cereals, producing parallel hyaline tunnels on leaf surface; chlorosis and stunted growth results; North: May & June; Middle & South: Feb—May.

SESIIDAE (AEGERIIDAE)

746. Eusphecia pimplyaformis Ob. Larvae bore through phloem of thick, healthy stems of poplars and willows, or through thinner stems and branches; sap exudes from points of attack; Mosul: April & May; Baghdad: March & April.

747. Sciapteron (Paranthrene) tabaniformis Rott. Young larvae feed on inner bark of poplars and willows; later stages on wood of branches of young plants; Mosul: April & May; Baghdad: March & April.

SPHINGIDAE

748. Acherontia (Manduca) atropos L. Larvae feed on leaves of potato and sesame; Baghdad: Feb.

749. A. styx Westw. Same on pumpkin, Duranta and Lycium; Baghdad: Oct; Amara: May—July.

750. Berutana kotschyi Koll. Same on grape; Erbil: May & Aug.

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751. Celerio euphorbiæ L. ² Same on Euphorbia; host may be defoliated; North: May—July.

752. C. lineata F. ² Same on grape, snapdragon and Rumex; country-wide: spring & early summer.

753. Dephis neri L. ³ Same on oleander and Vinca; North & Middle: April, July, Sept & Nov.

754. Herse convolvuli L. ³ Same on sweet potato and Convolvulus; Baghdad: May.

755. Hippotion celerio L. ³ Same on grape; Middle: undated; Basra: March & April.

756. Lathoe populi L. ¹ Larvae defoliate poplar and willow; defoliation starts at tree top and proceeds downwards; Mosul: April; Erbil: Aug.

757. Theretra (Chaerocampa) alecto L. ³ Larvae feed on grape leaves; vines may be defoliated; country-wide: March—Sept.

THAUMETOPOEIDAE

758. Thaumetopoea solitaria Freyer. ² Same on pistachio; North: Sept & Oct.

TINAEIDAE

759. Niditinea fuscipunctella Haw. ² Larvae feed on dried animal and plant material; Baghdad: April—Dec.

760. Trichophaga abruptella Wall. Larvae feed on carpets, woollen clothes and other fabrics.

TORTRICIDAE

761. Cacoecia (Archips) rosana L. ³ Larvae feed on foliage of pome and stonefruit trees and poplar, and roll terminal leaves with web; North & Middle: May & June.
762. *Cydia fagi glandana* Zell. Larvae feed singly between acorn and capsule wall of oaks; infested acorns show brown patches and fall down early; Mosul & Sulaimaniya: Aug—Oct.

763. *Epinotia festivana* Hubn. Larvae live between two leaves of oak, held together by silk and feed on both; Mosul, Erbil & Sulaimaniya: May, June & Aug.

764. *E. trimaculata* Den. Larvae fasten two young leaves of poplar together and feed upon their inner surfaces until skeletonized; Mosul: May & June.


767. *P. fasciana* L. (= *P. juliana* Curtis). Larvae live and feed inside leaf and bud galls of oaks caused by *A. insana*, *A. kollari* and *A. multiplicatus* (cf. 554, 555 and 557); Mosul & Sulaimaniya: Sept—Nov.

768. *P. gallicolana* Zell. Larvae live and feed inside oak leaf galls of *A. multiplicatus* (cf. 557); Mosul & Sulaimaniya: May.

769. *Sparganothis pilleriana* (Denis & Schiff.). Larvae fasten grape leaves with web and feed upon them; North: May.

**YPONOMEUTIDAE**

770. *Phetela maculipennis* Curt. Larvae feed on leaves of cabbage and will crucifers; Middle & South: March & April.

771. *P. xylostella* L. Same on clover and weeds; Mosul: April; Baghdad: May

772. *Yponomeuta padella* L. Larvae feed on apple leaves held together by web; many larvae may live in one web; Erbil: June—Aug.
ORTHOPTERA

ACRIDIDAE (LOCUSTIDAE)

773. Acrida oxycephala (Pall.) (= A. deserti Uv.). Adults and nymphs feed on soft green parts of vegetables and field crops; Mosul: Feb & Oct—Nov; Erbil: Feb; Sulaimaniya: Nov; Baghdad: Aug, Sept & Nov; Amara: June.

774. A. (Acridadea) robusta Uv. Same; Amara: June.

775. Acrortylus insubricus Scop. (= A. versicolor Burr.). Adults and nymphs feed on leaves, buds and seedlings of cotton and other crops; country-wide: Feb—Dec.

776. Alolopus savignyi (K) (= A. affinis Bol.). Adults and nymphs feed on young field crops and their leaves; Mosul, Diyala & Baghdad: April-June.

777. A. (Epacromia) strepens (Lutr.). Same on cotton and other crops; Mosul, Diyala & Ramadi: March—May.

778. A. (Epacromia) thalassinus Rossi. Same; Middle & South: Feb—May, Aug, Oct & Nov.


780. Calliptamus barbarus Costa. Same on field crops; Erbil, Sulaimaniya, Kirkuk, Diyala & Baghdad: May—Aug & Nov.

781. C. (Coloptenus) italicus L. Same on field crops, vegetables and cereals; Mosul, Diyala, Baghdad & Hilla: May.

782. Chortippus brunneus Thumb. (= Stauroderus bicolor Charp.). Same on clover and forage crops; Mosul: June & July; Baghdad: undated.

783. Doctostaurus haenestini (Bollivar). Same on cereals and forage crops; North & Middle: May; Amara: April.
784. *D. (Stauronotus) maroccanus* Thumb. Adults and nymphs of the migratory phase completely destrucit vegetables, field crops, cereals, fruit and forest trees; Mosul & Baghdad: April & May; Kut: May.

785. *D. tartarus* Uv. Adults and nymphs feed on leaves and tender parts of field crops; occasionally attack cotton.

786. *Duronella fracta* (Krauss). Adults and nymphs feed on leaves and young plants of lucerne and forage crops; Amara: April.

787. *Eupreponemis plorans* (Charp.). Same on vegetables and field crops; Mosul, Sulaimaniya & Baghdad: July, Aug & Nov.

788. *Locusta danica* L. Same on wheat and barley; Diyala: undated.

789. *L. migratoria* L. Adults and nymphs feed on leaves, young stems and shoots of vegetables and field crops; Middle & South: Feb, May & June.

790. *Mioscirtus wagneri* Uv. Same on cereals; Diyala, Baghdad, Ramadi, Kut & Basra: May; Amara: June & Nov.

791. *Ochrididio acuta* (Bol.). Same on lucerne and forage crops; Baghdad April & Sept.

792. *O. tibialis* Fieb. Same; Baghdad: Sept; Amara: June & Oct.

793. *Oedaleus decorus* (Germ.) (= *O. nigrofasciatus* Latr.). Same on cotton and other crops.

794. *O. senegalensis* (Kr.). Same; Diyala & Ramadi: May.


796. *O. miniata* (Pall.) (= *O. salina* Gmel.). Same on cucurbits and other crops; North & Middle: June.

797. *Pyrgodera armata* F. W. Same on field crops; Erbil: May & July; Diyala: July.
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798. *Pyrgomorpha conica* Oliv. 2 Same on cucurbits and other crops; Baghdad: Oct; Amara: March & June.

799. *P. guntheri* Burr. Same on field crops; Mosul, Diyala & Baghdad: April & May.

800. *Ramuriella turcomana* F. W. Same on cereals; Diyala: May; Baghdad: June.

801. *Schistocerca gregaria* (Forsk.) 4 Adults and nymphs of the migratory phase completely defoliate vegetables, field crops, fruit and forest trees; country-wide: March-June.

802. *Sphingoderus carinatus* (Sauss.). 3 Adults and nymphs feed on leaves and young plants of cotton and cereals; Diyala: Aug.

803. *Sphingonotus coerulans* L. Same on vegetables and field crops; Baghdad & Amara: undated.

804. *S. obscuratus* Sauss. Same; Diyala & Ramadi: May.


807. *Thisiocetinus adpersus* Redt. 2 Same on *Acacia*; Baghdad: Feb; Amara: June, Aug & Sept.

808. *T. buxtoni* Uv. 2 Same on camel thorn and grasses; Amara: May & June.

809. *T. littoralis* (Ramb.). Same on alfalfa, vegetables and field crops; North & Middle: Oct & Nov.

810. *Tropidopola cylindrica* March. Same on sugarcane, rice and other field crops; Baghdad, Kut & Nasiriya: March, Sept & Nov; Amara: Jan, April, May, Oct & Nov.
BLATTIDAE

811. *Blatella germanica* L. Adults and nymphs feed on dead animal and plant material; Amara: June, Aug & Nov; Basra: May.

812. *Blatta orientalis* L. Same on stored animal and plant products; country-wide: warm seasons.

813. *Heterogamodes maris-mortui* (Janson). Adults and nymphs feed on dead animal and plant material; Amara: June—Nov; Basra: May.

814. *Ischnoptera evansi* Chop. Same; Amara: Aug.

815. *Periplaneta americana* L. Same; country-wide: warm seasons.


817. *P. africana* L. Same; Diyala & Kut: Nov.

818. *Schelfordella (Periplaneta) tartara* Sauss. Same; Amara: April—June & Sept; Basra: May.

819. *Supella superlectillum* (Serv.). Same as above.


GRYLLIDAE

821. *Acheta (Tartarozyllus) burdigatensis* Serv. 2 Adults and nymphs feed on young leaves, buds and seedlings of cotton, beet, melon and store products.

822. *A. desertus* (Pall.). Same; Kut: Aug; Amara: April & May; Basra: March.

823. *A. (Gryllus) domesticus* (L). 3 Same but feed on clothes also; country-wide: warm seasons.

824. *Gryllus bimaculatus* De G. 3 Adults and nymphs feed on seedlings; Diyala & Amara: Aug.
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GRYLLOTALPIDAE

825. Gryllotalpa gryllotalpa (L) (= G. vulgaris Latr.). Adults and nymphs attack roots of vegetables and field crops, causing heavy damage; country-wide; warm seasons.

TETTIGONIIDAE

826. Conocephalus buxtoni Chop. Adults and nymphs feed on leaves and stems of rice and other crops; Amara: June.

827. C. juecas F. Adults and nymphs feed on rose leaves; Amara: May & Oct.

828. Deiectus (Tettigonia) albifrons Cyr. Adults and nymphs attack maturing ears, cobs, pods, young shoots and leaves of vegetables, field crops and cereals; Diyala & Hilla: April & May; Baghdad: April—June; Amara: June.

829. Homorocoryphas (Conocephalus) nitidulus Scop. Adults and nymphs feed on leaves of rice and corn; Amara: Oct.

830. Platycleis (Metrioptera) affinis Fieb. Adults and nymphs feed on soft grains, young tobacco plants and vegetables; Mosul & Hilla: June; Sulaimanlya: Aug; Diyala: May.

831. P. escaleraei Bolivar. Same; Amara: May & June.

832. P. intermedia (Serv.). Same as above.

833. P. persicae Uv. Same on wheat and barley; Amara: June.

834. Tettigonia caudata (Charp.). Adults and nymphs feed on soft grains, seed pods and seedlings of cereals, legumes, tobacco and clover; Diyala & Hilla: April & May; Baghdad: April—June; Amara: July.

835. T. (Phasgonura) viridissima L. Same; Mosul: June-Aug; Diyala & Kut: May & July; Baghdad: March; Kerbala: May; Nusiriya: July.
PHLOEOTHRIPIDAE

836. *Haplothrips tritici* Kurdj. 5 Attacks ears and soft grains of wheat, barley and mustard causing pale spots on ears; seeds shrivel and decrease in weight and size; Diyala: undated; Baghdad: May.

THRIPIDAE

837. *Anaphothrips alternans* (Bagn.). Adults and nymphs feed beneath leaf sheath of Bermuda grass; Baghdad: May.

838. *A. obsecurus* (Mull.). Adults and nymphs feed on inflorescence of Bermuda grass producing silver top; Baghdad: May.

839. *Frankliniella intonsa* (Tryb.). 3 Adults and nymphs attack leaves, ears and flower heads of wheat, flax, lettuce, potato, alfalfa and *Calendula*; Sulaimaniya: Oct; Baghdad: May.

840. *F. pallida* Uz. Adults and nymphs attack leaves and flowers of cotton; Baghdad: May.

841. *Heliothrips indicus* Bag. Adults and nymphs feed on leaves of cotton, okra, hollyhock and sissoco, producing leaf curl and chlorosis.

842. *Reutthrips syriacus* (May.) (= *R. aegyptiacus* March., *Dictyothrips sanoniana* De G.). 3 4 Adults and nymphs feed on leaves and fruits of cotton, rice, mulberry, fig, grape, pome and stone-fruit trees; defoliation and shrivelled fruits result; Diyala: Nov; Baghdad: May & July; Amara: Aug.

843. *Taeniothrips vulgarisimus* (Halliday). Adults and nymphs feed on nectarine fruits which show cracks, scars, patches on skin, and gum secretion; Erbil: April.
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344. *Thrips tabaci* Lind. ( = *T. solanacearum* Portsch.). Adults and nymphs feed on leaves of cotton, onion, tobacco, wheat, toothpick, squash and cucumber which show white blotches and wilting; upper part of plant may die; They also act as virus vectors; Sulaimaniya: Oct; Baghdad: Feb—May; Hilla: April; Kut: May.
PART II. ENTOMOPHAGOUS SPECIES, 245—1084

ACARINA

CHEYLETIDAE

845. *Acaropsis soliers* Rhodendorf. All stages feed on non-embryonated eggs of *Trogoderma granarium*; Baghdad: year-round.

PHYTOSEIIDAE


COLEOPTERA

CARABIDAE

847. *Anthia 13-guttata* Bou. Adults prey upon other small beetles; Ramadi & S. desert: April; Amara: March & April; Basra: April & Nov.

848. *Calosoma maderae* (F). Adults and larvae prey upon nympha of *Eurygaster integriceps*; Baghdad: March—July & Sept; Diyala: April & May; Nasiriya: March, April & Sept.

849. *Chloenius* spp. Adults prey upon immature stages of a variety of insects; Mosul: April; Baghdad: March—Sept; Kut: July; Basra: April—June.

850. *Lebia holomera* Chaud. Same; Baghdad: April; Kerbala: Nov.

CHRYSMELIDAE

851. *Diorhabda fisheri* (Fald.). Probably prey upon early-instar nympha of *E. integriceps*; Baghdad: Sept.
CICINDELIDAE

852. Cicindela asiatica Brulle. Adults and larvae feed on a variety of live and dead insects; Baghdad: April.

853. C. deserticola Fald. Same; Baghdad: May & June; Kut: May.

854. C. germanica L. Same; Baghdad: April.

855. C. hilariola Bates. Same; Feb—April, Sept & Oct.

856. C. lunulata F. Same; Mosul: undated; Baghdad: April; Hilla, Nasiriya & Basra: Sept; Amara: March.

857. C. melanochilica F. Same; Mosul & Hilla: Sept; Erbil: July; Baghdad: March–June; Ramadi: May; Nasiriya: April & Sept.

858. C. pyranae Dej. Same; Mosul: March & April.

859. Megacophala euphratica Latr. & Dej. Same on various species of grasshoppers; Baghdad: March–July; Ramadi & Hilla: May; Nasiriya: April.

CLERIDAE

860. Trichodes spp. Adults feed on pollen of Umbelliferae; larvae prey upon bee larvae; March–June; Baghdad: March & May.

861. T. longissimus (Abulle). Adults feed on pollen of Achillea (Compositae); larvae live in bee nests; Mosul: June.

COCCINELLIDAE

862. Adalia decempunctata L. Adults and larvae prey upon all stages of the aphid Theiaves conferta found on Quercus acutolops; Sulaimaniya: June—Sept.

863. Chilocorus bipustulatus L. Adults and larvae prey upon all stages of
Parlatoria oleae, Chrysomphalus dietysperm and peach aphids; Mosul, Erbil & Sulaimaniya: Oct.

864. Coccinella conglobata L. Same on T. conferta and other aphids; Sulaimaniya: spring-early summer.

865. C. septempunctata L. Same; Erbil: July & Dec; Kirkuk: April; Diyala: April, May, Nov & Dec; Baghdad & Ramadi: Oct—June; Kut: Nov.

866. C. undecimpunctata L. Adults and larvae feed on all stages of aphids; they also feed on eggs and young larvae of Spodoptera littoralis; Mosul: April & Sept; Erbil: July; Diyala: April; Baghdad: Feb, March & May—Aug; Ramadi & Kut: March; Hilla: Oct; Kerbala: March & Nov.

867. Diomus rubidus (Motsch.). Adults and larvae feed on all stages of Nipaecoccus vastator; Baghdad: July.

868. Exochomus spp. Same on aphids; Baghdad: March, July—Sept; Hilla: Nov.

869. E. nigripennis Er. Adults and larvae feed on eggs of N. vastator, and on all stages of aphids; Baghdad: April & Oct.

870. E. pubescens Kust. Adults and larvae feed on all stages of aphids; Baghdad: March & July—Sept.

871. E. quadripustulata (L). Same on T. conferta; Mosul: Nov; Sulaimaniya: June—Sept.

872. Hyperaspis pumila Muls. Same on N. vastator; Baghdad: July.


874. N. (Siella) hiseki Fursch. Larvae prey upon eggs and nymphs of N. vastator; Baghdad: undated.

875. N. nigricans Weise. Same; Baghdad: undated.

877. *Pharoscyamus setulosus* Chevr. Same on certain unidentified coccid; Baghdad: Nov.

878. *P. smirnovi* Dobzhansky. Same on *P. blanchardi*; Baghdad & Hilla: Nov.


880. *S. (Pullus) ebneri* (Wes.). Same on *P. blanchardi*; Baghdad & Basra: Nov.

881. *Thea 22-punctata* (L.). Adults and larvae feed on all stages of the mites *Tetranychus telarius* and *Eryobia pratiosa*; Erbil: July; Diyala: Dec; Baghdad: May—July.

**Colydidae**

882. *Aulonium bicolor* F. Probably prey upon the scolytid beetle *Oxylotomius proximus*; Mosul: May.

**Histeridae**

883. *Platysoma (Clylistoma) cornix* Mars. Same; Mosul: May.

**Lamiidae**

884. *Agapanthia cardui* (L.). Same; large and stout larvae show cannibalism (cf. 223); Mosul & Sulaimaniya: May & June; Baghdad & Amara: March.

**Malachiidae**

885. *Malachius* sp. Adults and larvae prey upon immature stages of the tortricid moth *Cydia*; Baghdad: March & July.
MELOIDAE

886. *Lydis praestus* Mars. Larvae probably feed on eggs of grasshoppers. (cf. 229); Mosul: May.

887. *Hylabris calida* Pallas. Larvae feed on eggs of *Dociostaurus maroccanus* and *Locusta migratoria*; Mosul & Sulaimaniya: Aug; Erbil: June.

888. *M. polymorpha* Pallas (= *M. quattuordecimpunctata* Pallas). Same; Mosul: April; Baghdad: June & July.

889. *M. quadripunctata* L. Same (cf. 233); Mosul: May & June; Sulaimaniya: May.

NITIDULIDAE

890. *Carpophilus fumatus* Boh. Adults and larvae prey upon all stages of aphids; Baghdad: June—Aug; Basra: March.

891. *C. mutilatus* Erich. Same; Baghdad: May & June; Kerbala & Basra: March.

892. *Cybocephalus rufifrons* Rtt. Same on *P. blanchardi*; country-wide: Dec.

OSTOMIDAE (TROGOSITIDAE)

892. *Tenebrionides mauritanicus* (L). Usually feed on stored grains and flour; occasionally on other insects in the same medium; Baghdad: Jan, April & July—Aug.

STAPHYLINIDAE

894. *Paederus fuscipes* Curt. Adults prey upon eggs and larvae of *S. littoralis*; Baghdad: March & May; Ramadi: March; Hilla: Oct.
DERMAPTERA

FORFICULIDAE

895. *Forficula auricularia* L. 2 Adults prey upon immature stages of *Laspeyresia* and other insects.

896. *F. lucasi* Dohrn. 2 Same as above.

LABIDURIDAE

897. *Labidura riparia* Pallas. 2 Adults prey upon larvae of *S. littoralis* and pupae of *Pacticophora gossypiiella*; Diyala: Aug; Amara: June—Aug.

DIPTERA

BOMBYLIIDAE

898. *Anthrax* spp. Larvae feed on eggs of grasshoppers; Mosul: Oct; Ramadi: May; Kerbala: Sept; Basra: undated.

899. *A. binotata* Schiner. Adults emerge from wood of *Robinia pseudoacacia* infested by the cerambycid beetle *Clytus*, and wood of *Populus nigra* infested by the buprestid *Melanophila picta* (cf. 117 & 96); Mosul: May; country-wide; May & June.


901. *Bombylus simulans* Austen. Same; Mosul: May.

902. *Cytherca* sp. Same; Ramadi: April.

903. *Villa* sp. Larvae develop in nest cells of solitary bees; Erbil: July.
CALLIPHORIDAE

904. Pollenia sp. Larvae are endoparasites of the earthworm Allobophora; Mosul: Sept—Nov; Erbil: Oct; Sulaimaniya: May; Kirkuk: Jan; Diyala: April; Baghdad: Jan—June; Diwaniya: March.

CECIDOMYIIDAE

905. Diorodiplosis sp. Larvae prey upon eggs and nymphs of N. vastator and other mealybugs; Baghdad: Oct.

906. D. pseudococci (Felt). Same; Baghdad: April, May & Aug.

CHAMAEMYIIDAE

907. Leucopsis sp. Larvae prey upon gall-forming aphids; Baghdad: April.

CHLOROPIDAE


CONOPIDAE

909. Myopa buccata L. Larvae are endoparasites of humble bees and wasps; Baghdad: March.

DOLICHOPODIDAE

910. Hydropsorus sp. Adults prey upon larvae of aquatic Diptera.

EMPIDIDAE

911. Empis (Coptophilebia) sp. Adults prey upon agromyzid flies and other small insects; larvae are predators and scavengers; Baghdad: March.

912. Hilara sp. Same; Baghdad: March.
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LONCHAEIDAE

913. Lonchaea sp. Larvae prey upon weevils larvae; Baghdad: Oct.

MUSCIDAE

914. Hyilemya citricrura Rond. Larvae feed on eggs of Schistocerca and other locusts (cf. 305).

915. Pparegla sp. Same on locusts; Baghdad: Feb & Oct.

916. Scatophaga sp. Adults prey upon the fly Oscinella frit; larvae are saprophagous.

917. S. stercoraria L. Adults suck out body fluids of mycetophilid, bibionid, simulid and muscid flies, and other small Diptera; larvae are saprophagous in dung; Kirkuk & Diyala: April.

PHORIDAE

918. Megassella sp. Larvae are parasites of Anthonomus, Tipula, Spodoptera and Antigastra; Baghdad: March.

SARCOPHAGIDAE

919. Sarcophaga carnaria L. Larvae are parasitic on nymphs and adults of grasshoppers; Baghdad: March & April.

920. Wohlfahrtia sp. Larvae feed on eggs of grasshoppers.

SYRPHIDAE

921. Lasiopthisious (Scava) pyrastrri (L). Larvae prey upon all stages of the aphid Hyalopterus pruni; Mosul: April & Nov; Baghdad: Jan & April.
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922. Paragus sp. Same on Aphis fabae; Baghdad: March & June.

923. Sphaerophoria scripta L. Same on H. pruni and Brevicoryne brassicae; Mosul: April & July—Oct; Sulaimaniya: Jan; Baghdad: Feb—May & Oct—Nov.

924. Syrphus sp. Same on aphids; Baghdad: Oct—Feb & April.

925. S. (Matasyrphus) corollae Fab. Same on Aphis and B. brassicae; Diyala: Dec; Baghdad: Feb, April, Nov & Dec.

TACHINIDAE

926. Exorista sp. Larvae are parasitic on lepidopterous larvae; Mosul: June.

927. Microphthalma disjuncta Wied. Same on scarabaeid beetles.

928. Nemorilla floralis Fall. Same on the moths Spodoptera exigua and Antigastra; Baghdad: May.

THEREVIDAE

929. Psilocephala fritfeldi Loew. Adults prey upon smaller Diptera; larvae upon soft-bodied insects; Ramadi: Aug.

930. Thereva spp. Same; Mosul: July.

HEMIPTERA

ANTHOCORIDAE

931. Anthocoris minki Dohrn. Adults and nymphs prey upon all stages of the aphid Forda inside galls; Erbil & Baghdad: July.

932. A. nemoralis (F). Associated with psyllids on Populus nigra; nature of the association undetermined; Mosul: Nov.

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933. *Orius albipennis* (Reut.). Adults and nymphs prey upon aphids and small soft-bodied insects, and upon eggs and mobile stages of the mite *T. atlanticus*, Baghdad: Aug—Nov.

**LYGAEIDAE**

934. *Geocoris albipennis* F. Adults and nymphs prey upon other small Hemiptera.

935. *G. megacephalus* Rossi. Same as above.

936. *G. sicculus* Fieb. Same as above.

**MIRIDAE**


**NABIDAE**

938. *Nabis* sp. Adults and nymphs prey upon psyllid nymphs; Baghdad: May.

939. *N. capsiformis* Germ. Same on aphids, psyllids and other insects; Mosul: May; Ramadi: March.

940. *N. fervidus* Rm. Same; Mosul: Sept.


942. *N. palifer* Seid. Adults and nymphs prey upon nymphs of aphids and psyllids, and soft-bodied larvae of other insects; Erbil: Aug; Baghdad: Jan & May; Hilla: Oct; Kut: Dec.


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944. *N. sareptanus* D. Same; Baghdad: May & July.

945. *N. viridulus* Spin. Same; Erbil: Aug.

**REDUVIIDAE**

946. *Reduvius annulipes* Reut. Adults and nymphs prey upon smaller Hemiptera; Baghdad: July.

**HYMENOPTERA**

**AMPULICIDAE**

947. *Ampulex assimilis* Kohl. Larvae are ecto- and endoparasites of cockroaches; Baghdad: March & May.

**APHELINIIDAE**

948. *Coccophagus locanii* (Fitch). Larvae are parasitic on nymphs and adults of *Coccus hesperidum*; Baghdad: Oct; Ramadi: undated.


**APHIDIIDAE**

950. *Aphidius funberis* Mackauer. Larvae are specialized parasites of nymphs and adults of the aphids *Dactynotus jaceae* and *D. sonchi*; Mosul: April & May; Erbil: July; Baghdad: Feb—June; Kerbala: April; Kut: March & April.

951. *A. matricariae* Halliday. Same on *Aphis* spp. and *Mysus persicae*; Mosul: May; Baghdad: March & April.

952. *A. rosae* Halliday. Same on *Macrosiphum rosae*; Mosul: May; Erbil: July.

953. *A. transcaucasicus* Telenga. Same on *Loniganguiis Conacis* and *H. pruni*; Mosul: May; Erbil: July; Baghdad & Kut: April & May.

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954. *Diaceretiella rapae* McIntoch. Larvae are endoparasites of nymphs of *D. sonchi* and *E. brassicae*; Mosul: April, May & Sept—Nov; Baghdad, Kerbala & Basra: April.


957. *L. salticaphis* Fitch. Larvae are specialized parasites of the aphid *Chaitophorus* adults and nymphs; Mosul: May.


959. *Monoctonia pistaciaceola* Stary. Same on *Forda* and *Pemphigus* spp.; Mosul: May & June; Erbil: July; Sulaimaniya: Aug—Nov.


961. *P. cressoletum* Nees. Larvae are specialized parasites of the aphid *Theroaaphis* and also of the moth *Phyllonorycter*; Baghdad: April.

962. *P. flavinoda* Haliday. Larvae are specialized parasites of nymphs and adults of the aphid *Tubercoloides*; Erbil: July.

963. *P. volucris* Haliday. Same on *H. pruni*, *L. donaci* and *M. rosae*; Mosul: May; Erbil: July.

964. *Triosys* sp. Same on *Aphis* sp., *A. paristariae* and *Brachycaudus* sp. Mosul: May.


966. *T. angelicae* Haliday. Same on *A. crucivora*, *A. punicae*, *A. solanella*, *A. zizyphi*; Mosul: May; Baghdad: April.
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967. *T. pallidus* Haliday. Same on *Tuberculoides* sp.; Mosul: May; Erbil: July.

968. *T. quercicola* Stary. Same on *T. suberis*; Erbil: July.

**BETHYLIDAE**

969. *Solerodermus* sp. Larvae are parasitic on coleopterous grubs and lepidopterous caterpillars.

**BRACONIDAE**

970. *Apanteles plaudicolae* Cam. Larvae are parasitic on lepidopterous larvae; most probably on *Pieris* spp.; Baghdad: April.

971. *Bracon (Microbracon) hebctor* Say. (= *Habrobracon kitchneri* Dudge & Gough). Larvae are ectoparasites of the moths *Baria insulana*, *Antigastra cataloucalis*, *Ephestia cautella*, *Plodia interpunctella* and *Helcula*; Baghdad & Basra: year-round.

972. *B. nigripedator* Nees. Larvae are parasitic on larval weevils *Larinus grisescens* and *L. syriacus*; Baghdad: June.

973. *B. (Glabrobracon ?) urinator* F. Same; Baghdad: June.

974. *Cheleophora mutabilis* (Nees). Same on *S. littoralis*; Baghdad: Nov.

975. *Macrocentrus* sp. Same; Baghdad: May.

976. *Microplitis* sp. Same as above.

977. *Opus* sp. Same on the fly *Phytomyza atricornis*; Middle & South: March—May.

978. *Phanerotoma oculata* Kohl. Same on lepidopterous larvae; Baghdad: May.

979. Rogas spp. Same; Sulaimaniya: May: July.

980. *R. bicolor* (Spín.). Same; Baghdad: undated.
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281. *Vipio* sp. Larvae are ectoparasites of tentredinid wasps, oecidomyiid flies, Coleoptera and Lepidoptera; Diyala: April.

CHALCIDIDAE

282. *Brachymyrmia intermedia* Nees. Larvae are endoparasites of lepidopterous pupae; Baghdad: Nov & Dec.

283. *Dirhinus hesperidum* (Rossi). Larvae are ectoparasites of puparia of trypetid flies; Baghdad: undated.

284. *Prospalteola* sp. Larvae are parasitic on aleurocid nymphs; Baghdad: summer.

CHRYSIDIDAE

285. *Chrysis blanchardi* Luc. Larvae are ectoparasitic on mature larvae of megachild bees and vespid wasps; Baghdad: Nov; Amara: Sept.


287. *C. cyanopyga* Dahib. Same; Basra: April.


290. *C. interjecta* Lins. Same on larvae of the beetle *Octodesmus*; Mosul: May.

291. *C. maculicornis* Kl. Same on mature larvae and prepupae of megachild bees and vespid wasps; Amara: June & Aug.

292. *C. palliditarsis* Spin. Same; Amara: June.

293. *C. scutellaris* F. Same; Amara: Sept.

294. *C. (Hexachrysis) stilboideae* Spin. Same; Amara: Aug.

295. *Hedychridium hilare* Morice. Same; Amara: June.
996. *Omalus* sp. Same; Baghdad: March.


**DRYINIDAE**

998. *Dryinus* sp. Adults prey upon cicadellids; larvae are parasitic on nymphs and adults.

**ENCYRTIDAE**

999. *Achrysoophagus aegyptiacus* Mercet. Larvae are endoparasites of *N. vastator* females; Baghdad: Aug.

1000. *Anagrus* sp. Same; Baghdad: March—Oct.


1003. *A. pseudococci* (Girault). Same; Baghdad: March—Oct.

1004. *Cheiloneurus* sp. Secondary parasites on same; Baghdad: March—Oct.

1005. *Procheiloneurus aegyptiacus* Mercet. Larvae are endoparasites of *N. vastator* females; Baghdad: July.

**EULOPHIDAE**

1006. *Achrysochrella formosa* (Westwood). Larvae are endoparasitic of *N. vastator* females; Baghdad: July.

1007. *A. orientalis* Ferr. Larvae are hyperparasites of leaf-mining beetles through larvae or pupae of the primary eulophid host; Baghdad: Apr.

1008. *Aphelinus mali* Hald. Larvae are endoparasitic in nymphs and adults of the aphid *Eriosoma lanigerum*; Diyala & Baghdad: undated.

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1010. *Cirrospilus* sp. Hyperparasite of lepidopterous pupae through its primary braconid and ichneumonid hosts; Baghdad: April.

1011. *Digalyphus* sp. Larvae are endoparasitic in larval *P. atricornis*; Baghdad: May.

1012. *Euplectrus* sp. Same *Spodoptera*; Sulaimaniya: Aug.


1015. *Tetrastichus* sp. Larvae are endoparasitic on females of *N. vastator*; Baghdad: July.

**EVANIIDAE**

1016. *Evania dimidiata* F. Larvae are parasitic on eggs of cockroaches; Baghdad: Aug—Nov.

**FORMICIDAE**

1017. *Cataglyphis* sp. Adults (workers) collect larvae of *E. insulana*.

1018. *C. bicolor* (F). Workers probably prey upon nymphs of the bug *Eurygaster integriceps*; Diyala: March; Baghdad: March, April & Oct—Jan.

1019. *Monomorium saimonis* L. Adults feed on sugary food; workers collect larvae of *E. insulana*; Kirkuk: April.

1020. *Pheidole megacephala* F. Workers collect larvae of fruit flies; Baghdad: April.
ICHNEUMONIDAE

1021. Campoplex sp. Larvae are probably parasitic on larval moth Laphygma; Baghdad: Feb & April.

1022. Diplazon lastatorius (F). Females feed on contents of fresh eggs of syrphid flies and oviposit on embryonated eggs; larvae are parasitic in host larvae resulting from these eggs; Basra: Feb & April.

1023. Ephilates sp. Larvae are endoparasites of lepidopterous, coleopterous and hymenopterous larvae.

1024. Mesochorus sp. Larvae are hyperparasites of Braconidae and other Ichneumonidae.

1025. Opilion sp. Larvae are endoparasites of scarabaeid larvae; Baghdad: Feb.

1026. Pimpta sp. Same on the larvae of the vespid wasp Odynurus; Baghdad: undated.

LARRIDAE

1027. Palarus fabius Nurse. Larvae prey upon adult bees and wasps.

MEGACHILIDAE

1028. Coelioxys sp. Larvae kill larvae of Megachile spp.

MUTILLIDAE

1029. Ephatomma syriaca Andre. Females attack adult bees and suck their body fluids; Baghdad: Aug.

1030. Mutilla sp. Larvae are ectoparasites of mature larvae and pupae of bees.

MYZINIDAE

1031. Myzine arabica Guer. Larvae are ectoparasitic on scarabaeid larvae.
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POMPILIDAE (PSAMMOCHARIDAE)

1032. *Pompilus* sp. Larvae are ectoparasitic on spiders.

1033. *Psammocharis* sp. Same as above.

PTEROMALIDAE

1034. *Halticoptera* sp. Larvae are endoparasitic on *P. atricornis* larvae; Baghdad: Jan & Feb.

1035. *Pachyneuron* sp. Larvae are endoparasites of *N. vastator* females; Baghdad: March—Oct.

1036. *Sphegigaster* sp. Same on *P. atricornis* larvae; Baghdad: Jan & Feb.


SCELIONIDAE

1038. *Telenomus* sp. Larvae are egg parasites of *E. integriceps*.

1039. *Trissolcus (Asolcus) grandis* (Thaum.). Same as above.

1040. *T. semistriatus* (Nees). Same as above.

1041. *T. vassilevii* (Mayr.). Same; unlocated: May.

Scoliidae

1042. *Camposomeris thoracica* (Klug). Larvae are parasitic on scarabaeid grubs; Baghdad, Ramadi & Hilla: Nov.

SIGNIPHORIDAE

1043. *Chartocerus* sp. Larvae are parasitic on *N. vastator* females; Baghdad: July.

1044. *C. (Xanu) kurdiumovii* (Nikolskaya). Same; Baghdad: Aug.
SPHECIDAE

1045. *Ammophila tydei* Guil. Larvae are parasitic on lepidopterous larvae; Baghdad: Dec.

1046. *Cercera* spp. Larvae are parasitic on adult solitary bees; Baghdad: Nov.

1047. *Chalybion bengalense* (Dahlb). Same on spiders; Baghdad: May.

1048. *Chlorion* spp. Same on Orthoptera; Baghdad: March & Dec.

1049. *Larra* sp. Larvae are ectoparasitic on *Gryllotalpa* adults and nymphs; Baghdad & Mosul: summer.

1050. *Liris haemorrhoidalis* Kohl. Larvae are parasitic on adult field crickets; Baghdad: Nov—March.

1051. *Notogania* (*Notogonidea*) *subtesselata* Smith. Same as above.

1052. *Oxybeius* sp. Same; Baghdad: March; Basra: undated.


1054. *Podium* sp. Same on Orthoptera.


1056. *Sphex* sp. Same on large Orthoptera.

1057. *Stizus* spp. Same on Orthoptera; Diyala: summer.

1058. *Tachytes* spp. Same on field crickets; Baghdad: Nov.

TORYMIDAE

1059. *Ditropinotus aureoviridis* Cwf. Larvae are ectoparasitic on mature larvae of the eurytomid wasp *Harmoita tritici*; Baghdad: May.

1060. *Paraholaspis conturbata* Mas. Same on the trypetid fly *Acanthiophilus helianthi*; Baghdad: June.
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1062. *Chrysopa* sp. Larvae prey upon eggs and nymphs of *N. vastator*; Baghdad: undated.

1063. *C. carnea* Steph. Larvae prey upon live aphids *H. pruni* and their endo-parasites, eggs of *H. integriceps*, immature stages of the moth *Laspeyresia*, and upon *N. vastator*; Baghdad: March & April; autumn.

1064. *C. vulgaris* Schneider. Larvae prey upon different stages of aphids, jassids, psyllids, coccids, thrips and mites.

HEMEROBIDAE

1065. *Wesmaelius* sp. Same on aphids, smaller Homoptera and mites; Mosul: April.

MYRMELEONTIDAE


1067. *Neuroleon arenarius* Navas. Same as above.

NEMOPTERIDAE


1069. *Oliviera extensa* Oliv. Same as above.
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ODONATA

AGRIIDAE (AGRIONIDAE)

1070. Agrion splendens Harris. Adults prey upon mosquitoes and smaller Diptera; Sulaimaniya: May & Sept; Diyala: May & Oct; Baghdad: July—Oct.

COENAGRIIDAE (COENAGRIONIDAE)

1071. Agriocnemis sp. Same as above.


1074. I. pumillo (Charp.). Same as above.

1075. Platycnemis latipes Klug. Same as above.

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1076. Lestes barmara (Fabr.). Same as above.

1077. Sympecna peadisca Selys. Same; Diyala: Nov; Amara: May.

ORTHOPTERA

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1079. Empusa egena Charp. Same; Amara: March & April.

1080. E. utarovi Chopard. Same; Amara: Sept.

1081. Eremitaphila turacica Westwood. Same; Baghdad & Ramadi: April.

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1082. *Mantis religiosa* L. Same; Diyala: June; Baghdad: April—Aug; Amara: June & Nov.

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1083. *Aeolothrips fasciatus* L. Adults and nymphs prey upon immature stages of *Laspeyresia* sp. Baghdad & Kut: May.

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**Notes:**

- *Mallow, Malva rotundifolia*:
- *Malta jute, Corchorus sp.*:
- *Mango, Mangifera indica*:
- *Maple, Acer cinerascente*:
- *Marigold, Calendula sp.*:
- *Matrmony vine, Lycium sp.*:
- *Melon, Cucumis melo*:
- *Mesquite, Prosopis farcta* (*P. stephaniana*):
- *P. fuligora*:
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مقدمة

بلغ مجموع الأنواع في هذا الكتاب 1084 نوعًا، منها 844 نوعًا تنتمي إلى النباتات ومنتجاتها، و240 نوعًا تنتمي إلى أنواع أخرى من الحشرات أو نباتاتها. وتتطلب الاعتماد القصري من هذه النشرة قصد اكتساب النسق الابتدائي في ترتيب الرتب، والتبادل ضمن الرتبة، والاجتماع والأنواع ضمن العائلة الواحدة واعطيات كل نوع منها رقية متسلسة.

والمعلومات الأساسية والموجزة حول كل نوع تتضمن اسمه العلمي ومرادفاته وأعماله الاقتصادية وإعداداته وعاداته الغذائية وتاثير ذلك على العائل، وفيها انتشاره في العراق ومواصفاته ظهور الإماراء البالغين.

وقد رمزيت الاحصاء الاقتصادية لكل نوع بعد اسمه العلمي مباشرة بالارقام 4031، لتغطي أحصاء الاقتصادية عظمى وتوزع وتوزيع وعديدة، على الانتهاج أن الأنواع التي لا تعرف أهميتها فقد تركت بدون جملة، فقد ذكرت انتشار الأنواع حسب مجموعات العيش، بدأنا بالشمال باختلاف الجنوب وبالشرق. باتجاه الغرب فإن كانت معلومات حول ذلك ذكرت حسب المنطقة، وبلاحظ القاري الذي لا استعمال الأسماء الجديدة للمجموعات التي غيّرت أسماؤها القديمة.

والذي حددنا إلى ذلك هو أن هذا التغريبي حديث العهد، تم منذ بضع سنوات فقط. وأن معظم البحوث حول حشرات العراق تشير إلى منطقة بأسماء المنافحة القديمة فالأسماء الجديدة أن أصبحت مألوفة لدى العراقي فهي غير مألوفة بالمرة.

للقاري، العربي والاجتماع.

اعتمدت الأسماء المحلية للنباتات كالموارد المحلية، الخضراء، الاصماد، الاضجع، المنيرة، إلخ.

وأحيانا أخرى فإن اسم محل وارد على أكثر من نوع واحد، فالأنواع الممثلة باباماء محلية لها أسماء علمية في نسبث النباتات الممتازة تطلق أحيانا على الاستفادة الضارة والنباتات البرية لاختلاف الأجزاء فاسم محل.

وقد عمل مصدر للإسماء العلمية لهذه النباتات تجربة من الخطا.

وعدد الكتاب ي olmadığ على إجماع كبيرة في معلوماتنا حول بعض الأنواع، خصوصاً ما يتعلق منها بأعمالها الاقتصادية وانتشارها ومواسم ظهورها في العراق، وأصلي أن تكون هذه النماذج جاذبًا لباحثينا ليقوموا ببعض التسمح.

وختاماً اتقدم بالشكر إلى لجنة تحرير مشاريع مركز بحوث التاريخ الطبيعي لقبولهم نشر هذه، والدكتور جليل أبو الحبيب - استنادًا علم الحشرات.
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نباتية والمفرسة والطفيلة

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عزالددين علي