A preliminary study on the insect fauna of Al-Baha Province, Saudi Arabia, with descriptions of two new species

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Abstract
A preliminary study was carried out on the insect fauna of Al-Baha Province, south-western part of Saudi Arabia. A total number of 582 species and subspecies (few identified only to the genus level) belonging to 129 families and representing 17 orders were recorded. Two of these species are described as new, namely: Monomorium sarawatensis Sharaf & Aldawood, sp. n. [Formicidae, Hymenoptera] and Anthrax al-ruqibi El-Hawagry sp. n. [Bombyliidae, Diptera] and Anthrax chionanthrax (Bezzi, 1926) [Bombyliidae, Diptera]. Another eight species are recorded for the first time in Saudi Arabia, namely: Xiphoceriana arabica (Uvarov, 1922) [Pamphagidae, Orthoptera], Pyromorpha conica (Olivier, 1791) [Pyromorphidae, Orthoptera], Catopsilia florella (Fabricius, 1775) [Pieridae, Lepidoptera], Anthrax chimantnax (Bezzi, 1926) [Bombyliidae, Diptera], Spogostylum near tripunctatum Pallas in Wiedemann, 1818 [Bombyliidae, Diptera], Conoedys dichromatopa (Bezzi, 1925) [Bombyliidae,
Diptera], *Mydas* sp. [Mydidae, Diptera], and *Hippobosca equina* Linnaeus, 1758 [Hippoboscidae, Diptera]. Al-Baha Province is divided by huge and steep Rocky Mountains into two main sectors, a lowland coastal plain at the west, known as “Tihama”, and a mountainous area with an elevation of 1500 to 2450 m above sea level at the east, known as “Al-Sarat or Al-Sarah” which form a part of Al-Sarawat Mountains range. Insect species richness in the two sectors (Tihama and Al-Sarah) was compared, and the results showed that each of the two sectors of Al-Baha Province has a unique insect community. The study generally concluded that the insect faunal composition in Al-Baha Province has an Afrotropical flavor, with the Afrotropical elements predominant, and a closer affiliation to the Afrotropical region than to the Palearctic region or the Eremic zone. Consequently, we tend to agree with those biogeographers who consider that parts of the Arabian Peninsula, including Al-Baha Province, should be included in the Afrotropical region rather than in the Palearctic region or the Eremic zone.

**Keywords**

Palaearctic, Afrotropical, Eremic, List, Insect species, Arabian Peninsula, Tihama, Al-Sarah, Al-Sarawat Mountains, new species
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Introduction

Al-Baha Province (Fig. 1) is situated in the south-western part of Saudi Arabia between the Holy Makkah and Asir Regions (Doha 2009), with a population of about 500,000. It is the smallest province in the kingdom of Saudi Arabia (about 10362 km²), situated between longitudes 41°/42° E and latitudes 19°/20° N. This Province is known for its beauty and has many tourist attractions such as forests (about 53 forests), wild life areas, valleys, and mountains. It is characterized by natural tree cover and agricultural plateaus. The region is divided by huge and steep rocky mountains into two main sectors, a lowland coastal plain at the west, known as “Tihama”, and a mountainous area with an elevation of 1500 to 2450 m above sea level at the east, known as “Al-Sarat or Al-Sarah” which form a part of Al-Sarawat Mountains range (Alahmed et al. 2010, Ibrahim and Abdoon 2005).

Al-Baha Province consists of six main districts, four of which are located in Al-Sarah sector beside the downtown “Al-Baha”, i.e., Al-Aqiq, Al-Mandaq, Al-Qura, and Baljurashi, while two of the districts are located in Tihama sector, namely Al-Mekhwa including Dhee Ain Village (The Marble Village), and Qelwa (website: http://www.albahakfhaa.org/Albaha.htm).
The climate in Al Baha Province is greatly influenced by its varying topography. It is generally moderate in summer and cold in winter with average temperatures ranging between 12–23 °C. In Tihama, the climate is hot in summer, warm in spring and mild in winter, with humidity ranging between 52% - 67%, and a rainfall less than 100 mm annually. While in the mountainous area, Al-Sarah, The climate is greatly different from that in Tihama although the two sectors are separated by no more than 30 km. The weather is cooler in summer and winter due to its high altitude. Al-Sarah is exposed to the formation of clouds and fog, and this often happens in winter because of air masses coming from the Red Sea, accompanied by thunderstorms. In spring and summer, the climate is mild and pleasant. Also, rainfall is higher with falls in the range of 229–581 mm. The average rainfall throughout the whole province is 100–250 mm annually (websites: http://www.tititudorancea.com/z/weather_al_baha_saudi_arabia.htm).

The purpose of this paper is to present a preliminary list of insect fauna in Al-Baha Province. Such a study is of particular interest as the study area is a part of the Arabian Peninsula which is thought by many authors to touch three of the world’s main zoogeographical regions: the Afrotropical, the Palaearctic, and the Oriental (Hölzel 1998).

Many authors agree that the Afrotropical region covers all of Africa south of the Sahara with the island of Madagascar and the nearby smaller islands constituting a distinct subregion. Many authors also include parts of the Arabian peninsula in the Afrotropical region, but there seems to be no agreement as to how much. Sclater (1858) and Wallace (1876) proposed the classical zoogeographical regions and placed the northern border of the Afrotropics along the Tropic of Cancer. Thus, Al-Baha Province was included in the Afrotropical region, and the Northern limit of the Afrotropical region was placed in the Taif area, about 200 km north to Al-Baha (Hölzel 1998). However, according to Uvarov (1938), Greathead (1980), and Larsen (1984) this area should be united with the central Arabian deserts which are either considered part of the Palaearctic, or by some authors as an autonomous Eremic zone (also called the Saharo-Sindian faunal region). All these facts seem to be reflected somehow on the insect faunal composition in Al-Baha Province as shown in the following results.

Undoubtedly, this study is of particular interest also as the insect fauna of Al-Baha Province has not been studied thoroughly before, and this is the first comprehensive study on the entire insect fauna in the region. For this reason, the following previously established data are intended to serve as a basis for further investigations.

Only a few scattered studies have been carried out on select insect groups particularly in Al-Baha (Doha 2009) or have focused on the description of individual species (Aldawood et al. 2011; Lehrer and Abou-Zied 2008; Sharaf and Aldawood 2011, 2012; Sharaf et al. 2012a, 2012b). However, many studies in select insect groups have been carried out in Saudi Arabia as a whole. Many of these studies have been consulted in order to classify the species collected in the current survey or to determine species previously recorded from Al-Baha, and such studies include the following: Abdullah and Merdan (1995), Alahmed et al. (2010), Aldryhim and Khalil (1996), Amoudi (1993), Amoudi and Leclercq (1992), Balkenohl (1994), Basilewsky (1979), Bíly (1979, 1980,
1982, 1985, 1990), Bolton (1976, 1977, 1980, 1995), Boorman (1989), Brown (2000), Bryant (1957), Büttiker (1980), Chassain (1979, 1983), Coiffait (1979), Collingwood (1985), Collingwood and Agosti (1996), Collingwood and van Harten (2005), Collingwood et al. (1997), Collingwood et al. (2004), Cranston and Judd (1989), Crosskey and Buttiker (1982), Daccordi (1979), Damoisseau (1979), Dawah and Abdullah (2006), Decelle (1979), Deeming (1998), Dlabola (1979, 1980), Doguet (1979, 1984), Doha (2009), Español (1981), Fürsch (1979), Fürsch (1979), Gorochoz (1993), Greathead (1980, 1988), Guichard (1985, 1986, 1988), Hamid and Hamid (1985), Hölzel (1980, 1982, 1983a, 1983b, 1987, 1988, 1998), Holzschuh (1979), Holzschuh and Téocchi (1991) Horstmann (1981), Ibrahim and Abdoon (2005), Kaltenbach (1982), Kaszab (1979, 1981, 1982), Kwieton (1981), Larsen (1979, 1983, 1984), Leclercq (1982, 1986, 2000), Lewis and Buttiiker (1980), Linnavouri (1986), Linnavouri and Alâmy (1982), Lopatin (1979, 1982, 1983), Medvedev (1996), Merz and Dawah (2005), Nagel (1982), Paulian (1980), Pittaway (1985), Pont (1991), Popov (1981a, 1981b), Povolny (1980, 1981, 1983, 1986), Richards (1984), Schawaller (1993), Schawaller et al. (2011), Uhmann (1998), Waterston (1980), Wiltshire (1980, 1982, 1983, 1984, 1986, 1988), Winkler (1981), Würmli (1979), and Zunino (1981).

Material and methods

Insect material for the present study was collected extensively from different localities in Al-Baha Province, from 2008 to 2012 by the authors using sweeping and aerial nets, bait traps, beating sheets, digging, hand picking, light traps, malaise traps, pitfall traps, sticky traps, tray sifting, and yellow pan traps. Data from specimens preserved in the insect collections and literature records are also taken into consideration.

All taxa are arranged herein in alphabetical order. Localities and date of collection are included for the purpose of mapping distribution and activity periods of species in the study region.

Abbreviations of museums

| Abbreviation | Museum Name |
|--------------|-------------|
| BMNH         | Natural History Museum, London, United Kingdom. |
| CASC         | California Academy of Science Collection, San Francisco, California, USA. |
| EFC          | Efflatoun collection, Entomology Department, Faculty of Science, Cairo University, Egypt. |
| KSMA         | King Saud Museum of Arthropods, King Saud University, Riyadh, Kingdom of Saudi Arabia. |
| MHNG         | Muséum d'Histoire Naturelle, Geneva, Switzerland. |
| NHMB         | Naturhistorisches Museum, Basel, Switzerland. |
| WMLC         | World Museum Liverpool, Liverpool, United Kingdom. |
Results

A total number of 582 species and subspecies (few identified only to the genus level) belonging to 129 families and representing 17 orders, have been recorded from Al-Baha Province through the present study as follows:

Class: Insecta  
Subclass: Pterygota  
Division: Exopterygota  
Order: Odonata  
Suborder: Anisoptera  
Family: Aeshnidae

Anax parthenope (Sélys, 1839)  
Ghabet Raghdan: Decemper.  
Dhee Ain: January-February.

Family: Libellulidae

Trithemis arteriosa (Burmeister, 1839)  
Al-Mekhwa: January-May.  
Wadi Turabet Zahran: May.  
Dhee Ain: May.

* Collecting method of specimens of the order Odonata: Aerial nets.

Order: Orthoptera  
Suborder: Caelifera  
Family: Acrididae  
Subfamily: Acridinae  
Tribe: Truxalini

Truxalis arabica Uvarov, 1933  
Al-Mekhwa: February.  
Truxalis grandis Klug, 1830  
Al-Mekhwa: March.  
Truxalis longicornis (Krauss, 1902)  
Al-Mekhwa: February.  
Truxalis nasuta (Linnaeus, 1758)  
Al-Mekhwa: February.  
Truxalis procera Klug, 1830  
Al-Mekhwa: February.
Subfamily Cyrtacanthacridinae

Schistocerca gregaria Forsskal, 1775
Common: April-September.

Subfamily: Eyprepocnemidinae
Tribe: Eyprepocnemidini

Heteracris popovi (Uvarov, 1952)
   Al-Aqiq: September.
   Al-Baha: June.
Heteracris punctata (Uvarov, 1936)
   Al-Baha: June.

Subfamily: Gomphocerinae

Leva arabica (Uvarov, 1936)
   Baljurashi: May.
Ochrilidia gracilis (Krauss, 1902)
   Al-Mekhwa: March.
Ochrilidia sp.
   Al-Mekhwa: March.
Stenobrachus mundus (Walker, 1871)
   Dhee Ain: May.

Subfamily: Oedipodinae
Tribe: Acrotylini

Acrotylus patruelis (Herrich-Schäffer, 1838)
   Jebel El-Baher: May-July.
   Alhawya: April-July.

Tribe: Epacromiini

Aiolopus simulatrix (Walker, 1870)
   Jebel El-Baher: April–August.
   Al-Hawya: April-August.
   Ghabet Raghdan: April-July.
   Ghabet Shahba: May-July.
   Wadi Turabet Zahran: May.
Aiolopus thalassinus (Fabricius, 1781)
   Al-Mekhwa: April.
Tribe: Sphingonotini

*Sphingonotus rubescens* (Walker, 1870)
- Jebel El-Baher: April–August.
- Al-Hawya: April-August.
- Ghabet Raghdan: April-July.
- Ghabet Shahba: May-July.

*Sphingonotus savignyi* Saussure, 1884
- Jebel El-Baher: April-August.
- Al-Hawya: April-August.
- Ghabet Raghdan: April-July.
- Ghabet Shahba: May-July.

Tribe: Trilophidiini

*Trilophidia conturbata* (Walker, 1870)
- Al-Mekhwa: March-May.

Tribe: Unassigned

*Morphacris fasciata* (Thunberg, 1815)
- Al-Mekhwa: March-May.
- Wadi Turabet Zahran: May.

Family: Pamphagidae
Subfamily: Porthetinae

*Xiphoceriana arabica* (Uvarov, 1922) [A new record in Saudi Arabia].
- Al-Baha: October-May.

Family: Pyrgomorphidae
Subfamily: Pyrgomorphinae
Tribe: Poekilocerini

*Poekilocerus arabicus* (Uvarov, 1922)
- Jebel El-Baher: May-June.
- Wadi Turabet Zahran: May.

*Poekilocerus bufonius* (Klug, 1832)
- Wadi Turabet Zahran: May.
Tribe: Pyrgomorphini

*Pyrgomorpha conica* (Olivier, 1791) [A new record in Saudi Arabia]
  Ghabet Raghdan: February.

Family: Tettigidae
Subfamily: Tettiginae
Tribe: Tettigini

*Paratettix meridionalis* (Rambur, 1838)
  Dhee Ain: May.
  Suborder: Ensifera

Family: Gryllidae
Subfamily: Gryllinae
Tribe: Gryllini

*Acheta arabica* Gorochov, 1993
  Ghabet Raghdan: April.
*Acheta domesticus* Linnaeus, 1758
  Al-Mekhwa: February-August.
  Wadi Turabet Zahran: March.
*Gryllus bimaculatus* De Geer, 1773
  Al-Baha City: September.
  Wadi Turabet Zahran: May.
*Gryllus* sp.
  Al-Baha (Jebel El-Baher): December.

Subfamily: Trigonidiinae

*Trigonidium cicindeloides* Rambur, 1838
  Dhee Ain: May.

Family: Tettigoniidae
Subfamily: Conocephalinae
Tribe: Conocephalini

*Conocephalus arabicus* Uvarov, 1933
  Dhee Ain: May.
*Conocephalus* sp.
  Dhee Ain: May.
Subfamily: Tettiginiinae
Tribe: Platycleidini

*Platycleis arabica* Popov, 1981

- Al-Baha: June.
- Wadi Galla: May.

*Collecting methods of specimens of the order Orthoptera:* Sweeping and aerial nets were the main methods; however, katydids (Tettigoniidae) and crickets (Gryllidae) were collected using light traps as well.

Order: Dermaptera
Family: Forficulidae
Subfamily: Forficulinae

*Forficula auricularia* Linnaeus, 1758

- Wadi Galla: May.

Order: Embioptera
Family: Embiidae

*Arabembia biarmata* Ross, 1981

- Wadi Marwan: ?.

*Collecting method of specimens of the orders Dermaptera and Embioptera:* Pitfall traps.

Order: Psocoptera
Family: Psocidae
Subfamily: Amphigerontiinae

*Blaste arabica* New, 1979

- Al-Mandaq: April.

*Collecting method of specimens of the order Psocoptera:* Hand picking.

Order: Isoptera
Family: Kalotermitidae
Subfamily: Bifiditermitinae

*Epicalotermes aethiopicus* Silvestri, 1918

- Jebel Ibrahim: August.

*Collecting method of specimens of the order Isoptera:* Digging and hand picking.
Order: Blattodea
Family: Blattellidae
Subfamily: Blattellinae

*Blattella germanica* (Linnaeus, 1767)
All localities: Throughout the year.

Subfamily: Pseudophyllodromiinae

*Balta biquandi* Grandcolas, 1994
Wadi Marwani: April.

Family: Polyphagidae

*Heterogamisca marmorata* Uvarov, 1936
Wadi Galla: May.

*Heterogamisca* sp.
Al-Baha: September.

*Collecting methods of specimens of the order Blattodea:* Hand picking and Pitfall traps.

Order: Mantodea
Family: Empusidae
Subfamily: Blepharodinae

*Blepharopsis mendica nuda* Giglio-Tos, 1917
Al-Baha: April.

Subfamily: Empusinae
Tribe: Empusini

*Empusa spinosa* Krauss, 1902
Al-Baha: June.

Family: Eremiaphilidae

*Eremiaphila arabica* Saussure, 1871
Al-Baha: April.
Al-Mekhwa: May-August.

*Eremiaphila* sp
Ghabet Raghdan: May-July.
Ghabet Shahba: May-August.
Jebel El-baher: April-June.
Family: Mantidae
Subfamily: Amelinae
Tribe: Amelini

*Elaea* sp.
   Al-Baha City: April.

Subfamily: Mantinae

*Hierodula trimacula* Saussure, 1870
   Adanan: September.

*Iris coeca* Uvarov, 1931
   Adama: September.

*Mimomantis* sp.
   Jebel El-Baher: November.

Subfamily: Miomantinae

*Eremoplana infelix* Uvarov, 1924
   Adanan: September.

*Microthespis dmitriewi* Werner, 1908
   Adanan: June-September.

*Rivetina pallida* Kaltenbach, 1984
   Al-Baha: April.

Subfamily: Oxyothespinae

*Sinaiella nebulosa* Uvarov, 1924
   Al-Baha: April.

* Collecting methods of specimens of the order Mantodea: Hand picking and Sweeping nets.

Order: Phthiraptera
Suborder: Anoplura
Family: Pediculidae

*Pediculus humanus capitis* De Geer, 1767
   All localities: Throughout the year.
Family: Polyplacidae

*Polyplax brachyrrhyncha* Cummings, 1915
  Adama: September.

* Collecting method of specimens of the order Phthiroptera: Hand picking.

Order: Hemiptera
Family: Alydidae

*Mirperus jaculus* (Thunberg, 1783)
  Dhee Ain: May.
  Al-Mekhwa: February.
  Wadi Turabet Zahran: May.

Family: Anthocoridae
Subfamily: Anthocorinae
Tribe: Oriini

*Orius laevigatus* (Fieber, 1860)
  Haraja: February.

Family: Cydnidae

*Sehirus tibialis* (Stal, 1853)
  Dhee Ain: May.
  Wadi Galla: May.

Family: Dinidoridae

*Coridius viduatus* (Fabricius, 1794)
  Wadi Dahyan: May.

Family: Lygaeidae
Subfamily: Lygaeinae

*Lygaeus buettikeri* Hamid & Hamid, 1985
  Baljurashi: August.

*Spilostethus pandurus* (Scapula, 1763)
  Ghabet Raghdan: May-July.
  Ghabet Shahba: May-June.
  Dhee Ain: May.
  Wadi Turabet Zahran: May.
Subfamily: Orsillinae
Tribe: Nysiini

Nysius cymoides (Spinola, 1837)
   Al-Baha: February-July.
   Wadi Turabet zahran: May.
   Dhee Ain: May.

Subfamily: Oxycareninae

Oxycarenus hyalinipennis (Costa, 1847)
   Al-Baha: May-July.
   Ghabet Raghdan: May-August.

Oxycarenus zavattarii Mancini, 1939
   Ghabet Raghdan: May-August.

Family: Miridae
Subfamily: Deraeocorinae
Tribe: Deraeocorini

Deraeocoris martini (Puton, 1887)
   Zahran: February.

Subfamily: Mirinae
Tribe: Mirini

Creontiades pallidus (Rambur, 1842)
   Ghabet Raghdan: May.

Megacoelum oculare Wagner, 1957
   Adnan: September.

Phytocoris kansisrob Linnavouri, 1975
   Adama: September.
   Zahran: September.

Taylorilygus pallidulus (Blanchard, 1852)
   Zahran: February.

Taylorilygus simonyi (Reuter, 1903)
   Al-Mandaq: April.

Subfamily: Phylinae
Tribe: Hallodapini

Hallodapus costai (Reuter, 1890)
   Wadi Ganaah: February.
Laemocoris trimaculatus Linnavouri, 1964  
   Al-Mandaq: April.
Ruwaba glabriceps Linnavouri &Al-Neamy, 1982  
   Adama: September.

**Tribe: Phylini**

Campylomma acaciae Linnuovi, 1961  
   Zahran: February.
Campylomma pulicariae (Linnauvori, 1986)  
   Zahran: February.
Campylomma torridum Linnauvori, 1975  
   Zahran: February.
Psallomimus ornatus Linnavouri, 1957  
   Zahran: September.

**Family: Notonectidae**  
**Subfamily: Anisopinae**

Anisops debilis Gerstäcker, 1873  
   Wadi Turabet Zahran: May.
Anisops sardea Herrich-Schaeffer, 1849  
   Wadi Turabet Zahran: May.

**Family: Pentatomidae**  
**Subfamily: Pentatominae**  
**Tribe: Aelini**

Stenozygum coloratum (Klug, 1845)  
   Ghabet Raghdan: May-August.
   Wadi Turabet Zahran: April-July.
   Dhee Ain: April-September.

**Tribe: Agonoscelidini**

Agonoscelis arabica Linnavouri, 1975  
   Ghabet Raghdan: May.
   Wadi Turabet Zahran: June.

**Tribe: Eysarcorini**

Eysarcoris ventralis (Westwood, 1837)  
   Dhee Ain: May.
   Wadi Genouna: May.
Tribe: Pentatomini

*Acrosternum millieri* (Mulsant & Rey, 1866)
- Dhee Ain: May-July.
- Wadi Gala: May-June.
- Wadi Genouna: May-July.
- Wadi Turabet zahran: May-June.

Tribe: Sciocorini

*Sciocoris* sp.
- Wadi Dahyan: April-July.
- Wadi Galla: May-August.
- Dhee Ain: May-June.

Family: Reduviidae

Subfamily: Harpactorinae

*Nagusta simonis* Puton, 1890
- Adama: April.

*Sphedanolestes* sp.
- Al-Mekhwa: February.

Subfamily: Peiratinae

*Pirates strepitans* Rambur, 1839
- Wadi Genouna: May.

Subfamily: Reduviinae

*Holotrichius innesi* Horvath, 1910
- Baljurashi: August.

*Reduvius nanus* Miller, 1951
- Wadi Ganaah: February.

Subfamily: Stenopodainae

*Pakesia linnavarii* (Dispons, 1962)
- Baljurashi: August.
Family: Rhopalidae
Subfamily: Rhopalinae

*Liorhyssus hyalinus* (Fabricius, 1794)
Wadi Turabet Zahran: February-May.

Family: Rhyparochromidae
Subfamily: Rhyparochrominae
Tribe: Rhyparochromini

*Dieuches mucronatus*, (Stal, 1866)
Wadi Turabet Zahran: June.

Family: Scutelleridae

*Deroplax silphoides* (Thunberg, 1783)
Wadi Dahyan: May.

*Odontoscelis* sp.
Ghabet Shahba: February-March.

*Collecting methods of specimens of the order Hemiptera:* Beating sheets and sweeping nets were the main methods; however, some specimens of Lygaeidae and Pentatomidae were collected using light traps as well.

Order: Homoptera
Suborder: Auchenorrhyncha
Family: Cicadellidae
Subfamily: Deltocephalinae
Tribe: Athysanini

*Adama buettikeri* Dlabola, 1980
Al-Baha: September.

*Athysanus* sp.
Al-Mekhwa: February-March.

*Exitianus fasciolatus* (Melichar, 1911)
Wadi Morah: April.

*Paraphlepsius* sp.
Wadi Dhayan: May.

*Texananus* sp.
Wadi Turabet Zahran: May-July.
Subfamily: Lassinae
Tribe: Iassini

Batracomorphhus sp.
  Dhee Ain: May.

Subfamily: Ledrinae

Petalocephala turgida Linnavouri, 1962
  Wadi Morah: April.

Subfamily: Macropsinae

Macropsis octonotata Dlabola, 1979
  Wadi Turabet Zahran: June.

Family: Cicadidae
Subfamily: Cicadinae
Tribe: Cicadini

Cicada sp.
  Al-Baha (place and date unknown).

Family: Cixiidae

Pseudoliarius palestinensis Linnavuori, 1962
  Baljurashi (Wadi Marah).

Family: Dictyopharidae
Subfamily: Dictyopharinae

Dictyophara sp.
  Wadi Turabet Zahran: June.

Family: Flatidae

Derisa atratula Melichar, 1902
  Dhee Ain: February.

Family: Nogodinidae

Philbyella banajai Dlabola, 1980
  Adama: September.
*Collecting methods of specimens of the order Homoptera:* Beating sheets and sweeping nets were the main methods; however, specimens of Cicadellidae, Cicadidae and Cixiidae were collected using light traps as well.

**Division: Endopterygota**
**Order: Neuroptera**
**Family: Chrysopidae**
**Subfamily: Chrysopinae**
**Tribe: Chrysopini**

*Dichochrysa amseli* Holzel, 1980  
Baljurashi (Wadi Marah): April-May.

*Dichochrysa venosa* (Rambur, 1842)  
Baljurashi (Wadi Marah): April-May.

*Mallada spadix* Holzel, 1988  
Baljurashi: April.

**Tribe: Belonopterygini**

*Italochrysa asirensis* Hölzel, 1980  
Baljurashi (Wadi Marah): April.

**Family: Myrmeleontidae**
**Subfamily: Myrmeleontinae**
**Tribe: Myrmecaelurini**

*Myrmecaelurus acerbus* (Walker, 1853)  
Baljurashi: April.

**Tribe: Myrmeleontini**

*Myrmeleon fasciatus* (Navas, 1912)  
Baljurashi: April.

*Myrmeleon hyalinus* Olivier, 1811  
Al-Baha City: April-July.

**Tribe: Nemoleontini**

*Creoleon antennatus* (Navas, 1914)  
Turabat Zahran: April.

*Distoleon laticollis* (Navás, 1913)  
Baljurashi: April.  
Al-Baha City: April-July.
Neuroleon lugubris (Návas, 1926)
Turabet Zahran: April.

Tribe: Nesoleontini

Cueta asirica (Holzel, 1982)
Baljurashi: April.

Cueta lineosa (Rambur, 1842)
Turabet Zahran: April.

Cueta pallens (Klug in Ehrenberg, 1834)
Turabet Zahran: April.

Collecting methods of specimens of the order Neuroptera: Light trap was the main method; however, some specimens of Chrysopidae were collected using sweeping nets as well.

Order: Coleoptera
Suborder: Adephaga
Family: Carabidae
Subfamily: Brachininae
Tribe: Brachinini

Brachinus sp.
Wadi Turabet zahran: June.

Pheropsophus africanus (Dejean, 1825)
Wadi Dahyan: May.

Subfamily: Carabinae

Calosoma imbricatum Klug, 1832
El-Hawya: September.
Wadi Turabet Zahran: May.

Subfamily: Harpalinae
Tribe: Cyclosomini

Tetragonoderus arcuatus Dejean, 1829
Wadi Turabet Zahran: May-June.
Dhee Ain: January-May.

Tribe: Galeritini

Galerita africana Dejean, 1825
Wadi Ganaah: February.
Tribe: Harpalini

*Stenolophus* sp.
   Al-Baha: September.

Tribe: Lebiini

*Cymindis andreae* Menetries, 1832
   Al-Baha: September.
*Cymindis suturalis* Dejean, 1825
   Baljurashi (Al-Qamh): January.

Tribe: Sphodrini

*Sphodrus leucophthalmus* Linne, 1758
   Al-Baha: September.

Tribe: Zuphiini

*Agastus zuphoides saudiensis* Mateu, 1986
   Wadi Ganaah: February.

Subfamily: Paussinae
Tribe: Paussini

*Paussus cephalotes* Raffray, 1885
   Jebel Shada: April-June.

Subfamily: Pterostichinae
Tribe: Zabrini

*Amara simplex* Dejean, 1828
   Baljurashi (Al-Qamh): January.
*Zabrus* sp.
   Ghabet Shahba: February-March.

Subfamily: Scaritinae
Tribe: Clivinini

*Clivina collaris* (Herbst, 1784)
   Dhee Ain: January.
Subfamily: Trechinae
Tribe: Bembidiini

*Bembidion atlanticum megaspilum* Walker, 1871
   Wadi Turabet Zahran: June.
   Zee Ghazal: May.

*Elaphropus conspicuus* (Schaum, 1863)
   Dhee Ain: January-May.
   Wadi El-Zarayeb: May.

*Elaphropus variabilis* (Chaudoir, 1876)
   Dhee Ain: January.

*Elaphropus* sp.
   Dhee Ain: January.

*Tachys gilvus* Schaum, 1863
   Dhee Ain: January.

Family: Dytiscidae
Subfamily: Colymbetinae
Tribe: Colymbetini

*Rhantus includes* (Walker, 1871)
   Al-Mandaq: April.

Subfamily: Dytiscinae
Tribe: Dytiscini

*Hydaticus jucundus* Reiche, 1850
   Baljurashi: October.

Subfamily: Hydroporinae
Tribe: Hydroporini

*Nebrioporus insignis* (Klug, 1834)
   Al-Mandaq: April.

*Nebrioporus seriatus* (Sharp, 1882)
   Al-Mandaq: April.

Family: Haliplidae

*Haliplus lineatocollis* (Marsham, 1802)
   Al-Mandaq: April.
   Wadi Khoda: November.
Suborder: Polyphaga
Family: Anobiidae
Subfamily: Mesocoleopodinae

*Mesocoelopus ingibbosus* (Pic, 1924)
   Adnan: September

Family: Anthicidae
Subfamily: Anthicinae
Tribe: Anthicinae

*Anthicus crinitus* LaFerté-Sénéclère, 1848
   Al-Mekhwa: February-March.

*Stricticollis peplifer* (Marseul, 1879)
   Dhee Ain: January.

Tribe: Endomiini

*Endomia lefebvrei* (Laferté, 1849)
   Al-Aqiq Road: January.
   Dhee Ain: January.

Tribe: Formicomini

*Anthelephila caeruleipennis* (LaFerté, 1847)
   Al-Mekhwa: February-March.
   Wadi Turabah: June.

*Anthelephila ninus* LaFerté-Sénéclère, 1849
   Al-Mekhwa: February-March.

Family: Bostrichidae
Subfamily: Apatinae
Tribe: Apatini

*Xylomedes coronata* (Marseul, 1883)
   El-Hawya: September.

Subfamily: Bostrichinae
Tribe: Xyloperthini

*Enneadesmus trispinosus* (Olivier, 1795)
   Wadi Turabet Zahran: June.

*Xyloperthella picea* (Olivier, 1790)
   Dhee Ain: August.
Family: Buprestidae  
Subfamily: Buprestinae  
Tribe: Anthaxiini

*Anthaxia kneuckeri* Obenberger, 1920  
Al-Mandaq: September.

Subfamily: Polycestinae

*Acmaeodera elevata* (Klug, 1829)  
Dhee Ain: May.  
*Acmaeodera polita* (Klug, 1829)  
El-Hawya: May.  
Wadi Galla: May.

Family: Cerambycidae

*Mourgliana conspicua* Holzschuh, 1993  
Dhee Ain: May.

Family: Chrysomelidae  
Subfamily: Bruchinae  
Tribe: Pachymerini

*Caryedon* sp.  
Al-Mekhwa: February.

Subfamily: Cryptocephalinae  
Tribe: Clytrini

*Aetheomorpha seminigra pumilio* Lacordaire, 1848  
Al-Baha: May.

Tribe: Cryptocephalini

*Cryptocephalus* sp.  
Al-Mekhwa: February.
Subfamily: Galerucinae
Tribe: Alticini

*Chaetocnema pulla* Chapuis, 1879
  Al-Mekhwa: February.
*Chaetocnema tibialis* (Illiger, 1807)
  Al-Mekhwa: February.
*Phyllostreta cheiranthi* Weise, 1903
  Al-Baha: May.
*Podagrica pallidicolor* Pic, 1909
  Wadi Ganaah: February.
*Psylliodes persica* Allard, 1867
  Al-Baha: May.

Tribe: Galerucini

*Diorhabda octocostata* Gahan, 1896
  Ghabet Raghdan: May.

Family: Cleridae
Subfamily: Clerinae

*Opilo longipilis* Fairmaire, 1892
  Wadi Dhyian: September.

Subfamily: Korynetinae

*Necrobia rufipes* De Geer, 1775
  Wadi Galla: May.

Family: Coccinellidae
Subfamily: Coccinellinae
Tribe: Coccinellini

*Hippodamia variegata* (Goeze, 1777)
  Al-Baha: May-June.
  Wadi Turabet Zahran: May-June.

Subfamily: Scymninae
Tribe: Scymnini

*Scymnus syriacus* Marsuel, 1868
  Al-Mekhwa: February-April.
Family: Curculionidae
Subfamily: Apioninae
Tribe: Apionini

*Thymapion solarii* (Wagner, 1908)  
Jebel Ibrahim: September.

*Thymapion subrecticolle* (Voss, 1961)  
Wadi Gaanah: February.

Tribe: Exapiini

*Apiotherium dongollanum* (Wagner, 1910)  
Jebel Ibrahim: September.

Tribe: Kalcapiini

*Afrothymapion tanganum* (Hartmann, 1897)  
Jebel Ibrahim: September.

Tribe: Piezotrachelini

*Pseudoconapion mirei* (Hoffmann, 1962)  
Jebel Ibrahim: September.

*Pseudoconapion segne* (Faust, 1895)  
Jebel Ibrahim: September.

Subfamily: Curculioninae
Tribe: Smicronychini

*Sharpia rubida* (Rosenhauer, 1856)  
Al-Baha: May.

Family: Dryopidae

*Dryops sulcipennis* (Costa, 1883)  
Wadi Turabet Zahran: June.

Family: Elateridae
Subfamily: Agrypninae

*Lanelater notodonta* (Latreille, 1827)  
El-Hawya: September.
Subfamily: Cardiophorinae
Tribe: Cardiophorini

*Craspedostethus wittmeri* Chassain, 1979
  Adnan: August.

Family: Hydrophilidae

*Laccobius subpictus erlangeri* (Regimbart, 1905)
  Wadi Gaanah: February.

*Laccobius praecipnus* Kuwert, 1891
  Al-Mandaq: April.
  Khoda: September.
  Wadi Gaanah: February.
  Wadi Noval: September.

Family: Meloidae
Subfamily: Meloinae
Tribe: Mylabrini

*Mylabris calida* (Pallas, 1782)
  Jebel El-Baher: May-July.
  Ghabet Shahba: April-August.
  Wadi Turabet Zahran: May.

Subfamily: Nemognathinae
Tribe: Nemognathini

*Nemognatha chrysomelina* (Fabricius, 1775)
  Wadi Gala: May.

*Zonitoschema rubricolor* Pic, 1924
  Baljurashi: August.

Family: Melyridae

*Melyris sp.*
  El-Hawya: May.
  Dhee Ain: May.
Family: Mordellidae  
Subfamily: Mordellinae  
Tribe: Mordellini

*Mediimorda bipunctata* (Germar, 1827)  
Jebel El-Baher: May-June.

Family: Mycetophagidae  
Subfamily: Mycetophaginae

*Typhaea stercorea* (Linnaeus, 1758)  
Dhee Ain: January.

Family: Prionoceridae

*Idgia asirensis* Wittmer, 1980  
Wadi Gala: May.  
Wadi Turabat Zahran: May-October.

Family: Scarabaeidae  
Subfamily: Aphodiinae  
Tribe: Aphodiini

*Aphodius andreinii* Balthasar, 1939  
Wadi Ganaah: February.  
*Aphodius lividus* (Olivier, 1789)  
Adama: September.  
Wadi Ganaah: February.  
*Aphodius schusteri* Balthasar, 1935  
Wadi Ganaah: February.

Tribe: Eupariini

*Ataenius garamas* Peyerimhoff, 1929  
Adama: September.

Tribe: Psammodiini

*Granulopsammodius plicatulus* (Fairmaire, 1892)  
Wadi Al-Uqdah: February.  
*Leiopsammodius laevicollis* (Klug, 1845)  
Wadi Ganaah: February.
Rhyssemus Asperocostatus Fairmaire, 1982
   Adanan: September.
   Wadi Al-Uqdah: February.
   Wadi Ganaah: February.

Rhyssemus brevitarsis Pittino, 1984
   Wadi Ganaah: February.

Rhyssemus buettikeri Pittino, 1984
   Wadi Ganaah: February.

Rhyssemus coluber Mayet, 1887
   Wadi Ganaah: February.
   Wadi Shumran: February.

Rhyssemus granosus (Klug & Erichson, 1842)
   Adama: September.
   Adanan: September.
   Wadi Ganaah: February.
   Wadi Shumran: February.
   Dhee Ain: October.

Rhyssemus rubeolus Harold, 1871
   Wadi Ganaah: February.

Rhyssemus saoudi Pittino, 1984
   Adama: September.
   Adanan: September.
   Dhee Ain: May.

Subfamily: Cetoniinae

Homothyrea thoracica Schaum, 1841
   Al-Aqiq Road: January.
   Dhee Ain: January.

Pachnoda leclercqi Rigout, 1985
   Wadi Galla: May.

Pachnoda thoracica Fabricius, 1775
   Ghabet Shahba: May-December.
   Wadi Turabet Zahran: May.
   Dhee Ain: May.

Subfamily: Scarabaeinae

Onthophagus transcaspicus Koenig, 1888
   Adnan: August-September.
   Baljurashi: August-September.
Family: Scirtidae
Subfamily: Scirtinae

Cyphon laevipennis Tournier, 1868
  Wadi Turabet Zahran: July-October.

Family: Silvanidae
Subfamily: Silvaninae

Oryzaephilus surinamensis (Linnaeus, 1758)
  Dhee Ain: May.

Family: Staphylinidae
Subfamily: Paederinae
Tribe: Paederini

Paederus alfieri Koch, 1934
  Dhee Ain: April-June
  Wadi Galla: May.
Paederus sp.
  Al-Mekhwa: February.

Family: Tenebrionidae
Subfamily: Alleculinae
Tribe: Alleculini

Mycetocharina wittmeri Muche, 1982
  Adnan: September.
Prionychus denticulatus Muche, 1982
  Adnan: September.

Subfamily: Pimeliinae
Tribe: Adesmiini

Adesmia cancellata cancellata (Klug, 1830)
  Al-Baha: September.
  Adnan: September.

Tribe: Stenosini

Stenosis comata Reiche & Saulcy, 1857
  Baljurashi (Al-Qama’): January
Tribe: Pimeliini

*Triptera crinita* Klug, 1830  
Al-Baha City (El-Hawya): September.  
Wadi Galla: May.  
Wadi Turabat Zahran: May.  

*Triptera kraatzi* Haag, 1876  
Dhee Ain: January.

Tribe: Sepidiini

*Sepidium cristatum* Fabricius, 1775  
Baljurashi: August.  
Subfamily: Tenebrioninae

Tribe: Blaptini

*Blaps kollari kollari* Seidlitz, 1896  
Adnan: September.

Tribe: Opatrini

*Anemia brevicollis* (Wollaston, 1864)  
Wadi Turabat Zahran: May.  

*Gonocephalum strigosum* (Reiche, 1850)  
Al-Aqiq Road: January.

Family: Thanerocleridae

*Thaneroclerus buqueti* (Lefebvre, 1835)  
Ghabet Amadan: May.

Family: Zopheridae

Subfamily: Colydiinae

Tribe: Synchitini

*Bitoma sicciana* (Pascoe, 1863)  
Wadi Al-Zarayeb: April.  

*Collecting methods of specimens of the order Coleoptera:* Pitfall traps, especially for Carabidae and Tenebrionidae; beating sheets, especially for Anobiidae and Curculionidae; and sweeping nets, especially for Chrysomelidae, Cerambycidae, Buprestidae and other families were the main methods; however, specimens of Dytiscidae were collected using light traps.
Order: Trichoptera  
Family: Hydroptilidae  
Subfamily: Hydroptilinae  
Tribe: Hydroptilini  

*Hydroptila cruciata* Ulmer, 1912  
Wadi Ilyab: November.  

Family: Leptoceridae  
Subfamily: Leptocerinae  
Tribe: Setodini  

*Setodes alalus* Mosely, 1948  
Wadi Arida: September.  
Wadi Ganaah: February.  
Wadi Ilyab: November.  

Family: Philopotamidae  
Subfamily: Chimarrinae  

*Chimarra saudia* Malicky, 1986  
Wadi Arida: September.  

*Collecting methods of specimens of the order Trichoptera:* Light traps.  

Order: Lepidoptera  
Suborder: Rhopalocera  
Family: Hesperidae  
Subfamily: Hesperiinae  

*Pelopidas thrax thrax* (Hubner, 1821)  
Al-Mikhwa: January-April.  

Family: Lycaenidae  
Subfamily: Lycaeninae  
Tribe: Lycaenini  

*Lycaena phlaeas* (Linnaeus, 1761)  
Ghabet Raghdan: April-August.
Subfamily: Polyommatinae
Tribe: Lycaenesthini

Anthene sp.
Al-Baha: June.

Tribe: Polyommatini

Azanus sp.
Wadi Turabat Zahran: November.
Euchrysops osiris (Hopffer, 1855)
Ghabet Shahba: May-June.
Lepidochrysops pittawayi Larsen, 1983
Adnan: February-April.
Tarucus theophrastus Fabricius, 1793
Al-Mikhwa: January-March.
Wadi Turabat Zahran: November.
Zizula hylax Fabricius, 1775
Al-Mikhwa: January-March.

Subfamily: Theclinae

Myrina silenus (Fabricius, 1775)
Dhee Ain: February-March.

Family: Nymphalidae
Subfamily: Charaxinae
Tribe: Charaxini

Charaxes bernstorffi Rydon, 1982
Ghabet Shahba: May.
Charaxes hansali Felder, 1867
Ghabet Raghdan: May-June.

Subfamily: Danainae

Danaus chrysippus (Linnaeus, 1758)
Al-Mekhwa: January-March.
Dhee Ain: June-November.
Dhee Ain: October.
Subfamily: Heliconiinae

*Argynnis* sp.
Dhee Ain: December-January.

Subfamily: Nymphalinae

**Tribe: Junoniini**

*Junonia hierta* Fabricius, 1798
Ghabet Shahba: May-July.

**Tribe: Nymphalini**

*Vanessa (Cynthia) cardui* Linnaeus, 1758
Al-Baha (Jebel El-Baher): March-July.
Ghabet Raghdan: March-July.
Wadi Turabet Zahran: November.

Subfamily: Satyrinae

*Lasionommata felix* (Warnecke, 1929)
Ghabet Shahba: May.

Family: Papilionidae

**Subfamily: Papilioninae**

*Papilio demoleus demoleus* Linnaeus, 1758
Al-Mekhwa: March-April.
Dhee Ain: January.
Wadi Turabet Zahran: December.

*Papilio* sp.
Ghabet Raghdan: May-June.

Family: Pieridae

**Subfamily: Coliadinae**

*Catopsilia florella* (Fabricius, 1775) [A new record in Saudi Arabia]
Al-Mekhwa: November.

*Eurema hecabe* (Linnaeus, 1758)
Wadi Turabet Zahran: October.
Subfamily: Pierinae  
Tribe: Anthocharini

*Euchloe belemia* (Esper, 1800)  
Amadan: October.

Tribe: Colotini

*Colotis amata* (Fabricius, 1775)  
Al-Mekhwa: January-March.  
Dhee Ain: January.

*Colotis antevippe zera* (Lucas, 1852)  
Al-Mekhwa: February-March.  
Dhee Ain: February-March.

*Colotis daira* (Klug, 1829)  
Al-Mekhwa: November.

*Colotis danae* (Fabricius, 1775)  
Al-Mekhwa: January-February.  
Dhee Ain: October.

*Colotis ephyia* (Klug, 1829)  
Al-Mekhwa: November.

*Colotis eucharis* Fabricius, 1775  
Dhee Ain: March.

*Colotis evagore* (Klug, 1829)  
Al-Mekhwa: November.

*Colotis halimede* (Klug, 1829)  
Dhee Ain: October.

*Colotis liagore* (Klug, 1829)  
Dhee Ain: October-December.

*Colotis protomedia* (Klug, 1829)  
Al-Mekhwa: March.  
Ghabet Raghdan: May.

*Nepheronia buquetii* (Boisduval, 1836)  
Al-Mekhwa: March.  
Dhee Ain: February-June.

Tribe: Pierini

*Belenois aurota* (Fabricius, 1793)  
Al-Baha (Jebel El-Baher): May-June.  
Ghabet Raghdan: May-July.

*Madais fausta fausta* (Olivier, 1804)  
Dhee Ain: Fabruary.
Pieris krueperi (de Niceville, 1884)  
  Amadan: October.

Pieris rapae (Linnaeus, 1758)  
  Al-Mekhwa: January – June.  
  Al-Baha: March – August.  
  Dhee Ain: February – July.

Pinacopteryx eriphia (Godart, 1819)  
  Aqabet Al-Baha-Tihama: April-May.

Pontia daplidice daplidice Linnaeus, 1756  
  Ghabet Raghdan: May-July.

Pontia glauconome (Klug, 1829)  
  Ghabet Raghdan: May-October.

Suborder: Heterocera  
Family: Arctiidae  
Subfamily: Arctiinae

Apisa canescens Arabica Warnecke, 1934  
  Baljurashi: August.

Hyphantria cunea Drury, 1773  
  Al-Baha (G. El-Baher): May.

Utetheisa pulchella (Linnaeus, 1758)  
  Al-Mekhwa: March.

Subfamily: Lithosiinae

Pelosia arabica (Rebel, 1907)  
  Baljurashi: September.

Siccia arabica Wiltshire, 1983  
  Baljurashi: August.

Family: Carposinidae

Metacosmesis xerostola Diakonoff, 1983  
  Baljurashi (Wadi Marah): April.

Family: Choreutidae

Tebenna micalis Mann, 1857  
  Baljurashi (Wadi Marah): September.
Family: Cossidae

*Eremocossus vaulogeri jordana* (Staudinger, 1897)
Baljurashi: September.
*Mormogystia reibellii* (Oberthür, 1876)
Adnan: May.

Family: Gelechiidae
Subfamily: Gelechiinae
Tribe: Gelechiini

*Ephysteris promptella* Staudinger, 1859
Baljurashi (Wadi Marah): April.
*Ephysteris subdiminutella* Stainton, 1867
Baljurashi (Wadi Marah): April.
*Phthorimaea operculella* Zeller, 1873
Baljurashi (Wadi Marah): April.
*Scrobipalpa asiri* Povolny, 1980
Baljurashi (Wadi Marah): April.
*Scrobipalpa biljurshi* Povolny, 1980
Baljurashi (Wadi Marah): April.
*Scrobipalpa ergasima* (Meyrick, 1916)
Baljurashi (Wadi Marah): April.
*Scrobipalpa vicaria* (Meyrick, 1921)
Baljurashi (Wadi Marah): April.

Family: Geometridae
Subfamily: Ennominae

*Cleora pavlitzkiae* Fletcher, 1958
Baljurashi: April.
*Coenina collenettei* Prout, 1931
Baljurashi: September.
*Epigynopteryx guichardi* Wiltshire, 1982
Baljurashi: August.
*Odontopera integraria* Guenée, 1858
Baljurashi: August-September.
*Oreometra fifae* Wiltshire, 1986
Baljurashi: April.
*Xylopteryx guichardi* Wiltshire, 1982
Baljurashi: September.
Zamarada hyalinaria Guenée, 1858  
Baljurashi: September.

Zeuctoboarmia syntropha (Prout, 1931)  
Baljurashi: September.

**Subfamily: Geometrinae**

*Microloxia herbaria* Hübner, 1808  
Jebel Ibrahim: August-September.

*Prasinocyma eremica* Wiltshire, 1980  
Baljurashi: September.

**Subfamily: Larentiinae**

*Calliclystis lita* (Prout, 1916)  
Baljurashi: April.

*Chloroclystis hawkinsi* Wiltshire, 1982  
Baljurashi: September.

*Orthonama obstipata* (Fabricius, 1794)  
Baljurashi: September.

**Subfamily: Sterrhinae**

*Chlorerythra rubriplaga sinaica* Wiltshire, 1949  
Baljurashi: September.

*Idaea besuata* Wiltshire, 1983  
Baljurashi: September.

*Idaea sordida sordida* (Rothschild, 1913)  
Al-Mandaq: September.

*Rhodometra kikiae* Wiltshire, 1982  
Jebel Ibrahim: September.

*Scopula luridata* Zeller, 1847  
Baljurashi: April.

*Scopula sarfaitensis* Wiltshire, 1982  
Baljurashi: April.

*Traminda rufistrigata* Hampson, 1896  
Jebel Ibrahim: August-September.

*Traminda neptunaria* Guenée, 1858  
Baljurashi: June.
Family: Lasiocampidae

*Dendrolimus lendereri* Kocak, 1981
   Baljurashi: September.
*Pachypasa sultani* Wiltshire, 1986
   Baljurashi: April.
*Stoermeriana omana* Freina&Witt, 1988
   Baljurashi: April.
*Streblote acaciae* Klug, 1829
   Baljurashi: April.

Family: Limacodidae

*Coenobasis farouki* Wiltshire, 1947
   Baljurashi: August.

Family: Lymantriidae

Subfamily: Lymantriinae

Tribe: Lymantriini

*Euproctis fasciata* Walker, 1855
   Ratha: August.
*Laelia xyleutis* Hampson, 1905
   Baljurashi: April-September.
*Lymantriades arabica* (Hampson, 1910)
   Baljurashi: August-September.
*Naroma varipes* Walker, 1865
   Baljurashi: September.

Family: Noctuidae

Subfamily: Acontiinae

*Ozarba atrifera* Hampson, 1910
   Baljurashi: August.

Subfamily: Acronictinae

*Ariathisa abyssinia* Guenée, 1852
   Baljurashi: August.
Subfamily: Bryophilinae

Cryphia pittawayi Wiltshire, 1986
   Baljurashi: September.

Subfamily: Catocalinae

Antarchaea magalium Townsend, 1958
   Baljurashi: July.
Hypotacha ochribasalis Hampson, 1896
   Adnan: September.
Lynces mimica Gaede, 1939
   Baljurashi: August.
Scodionyx mysticus Staudinger, 1899
   Baljurashi: April.
Sphingomorpha chlorea Cramer, 1777
   Baljurashi: April.
Thria robusta Walker, 1857
   Baljurashi: November.
Ophiuche masurialis Guenée, 1854
   Wadi Gaanah: February.

Subfamily: Erebiniae

Tathorhynchus philbyi Wiltshire, 1986
   Baljurashi: July.

Subfamily: Eriopinae

Callopistria latreillei (Duponchel, 1827)
   Baljurashi: July.
   Wadi Al-Uqdah: February.

Subfamily: Eustrotiinae

Eublemma bifasciata (Moore, 1881)
   Wadi Al-Uqdah: February.
Eublemma buettikeri Wiltshire, 1980
   Baljurashi: September.
Eublemma ecthaemata Hampson, 1896
   Baljurashi: September.
Eublemma khalifa nejdi (Wiltshire, 1961)
   Baljurashi: September.
Eublemma mesophaea Hampson, 1910
   Jebel Ibrahim: September.
Eublemma parva (Hübner, 1808)
   Al-Baha: August.
   Jebel Ibrahim: September.

Subfamily: Hadeninae

Agrotis herzogi Rebel, 1911
   Al-Baha: January-June.
Agrotis ipsilon (Hufnagel, 1766)
   Al-Baha: January-June.
   Al-Mekhwa: December-February.
Agrotis medioatra Hampson, 1918
   Baljurashi: September.
Caradrina aldegaitheri Wiltshire, 1986
   Baljurashi: September.
Caradrina localis Wiltshire, 1986
   Baljurashi: September.
   Bani Sar: February.
Caradrina stenoeca Wiltshire, 1986
   Baljurashi: September.
Haderonia proximoides Wiltshire, 1982
   Baljurashi: September.
Mythimna affinis (Warnecke, 1930)
   Baljurashi: July.
Mythimna octogesima Wiltshire, 1982
   Baljurashi: August.
Sideridis chersotooides Wiltshire, 1956
   Baljurashi: September.
Spodoptera cilium Guenée, 1852
   Baljurashi: September.
Spodoptera exigua (Hubner, 1808)
   Al-Baha: January.
Spodoptera littoralis (Boisduval, 1833)
   Al-Baha: February-July.
   Ghabet Raghdan: May-June.
   Al-Mekhwa: December-April.
Spodoptera mauritia (Boisduval, 1833)
   Al-Baha: February-July.
Subfamily: Plusiinae

*Trichoplusia vittata* (Wallengren, 1856)
Beljurashi: July.

Subfamily: Thiacidinae

*Thiacidas adnanensis* (Wiltshire, 1980)
Adnan: September.

*Thiacidas cerurodes cerurodes* (Hampson, 1916)
Al-Baha: September.

Family: Oecophoridae

Subfamily: Depressariinae

*Agonopterix subpropinquella* Stainton, 1849
Baljurashi (Wadi Marah): April.

*Depressaria discipunctella* Herrich-Schäffer, 1854
Baljurashi (Wadi Marah): April.

Subfamily: Unassigned

*Amseloecia arabica* Povolny, 1983
Baljurashi (Wadi Marah): April.

Family: Pterophoridae

Subfamily: Agdistinae

*Agdistis obstinata* Meyrick, 1920
Baljurashi (Wadi Marah): April.

Subfamily: Pterophorinae

Tribe: Oxyptilini

*Megalorhipida defectalis* Walker, 1864
Baljurashi: May.

*Stangeia siceliota* (Zeller, 1847)
Baljurashi (Wadi Marah): April.

Family: Scythrididae

*Catascythris keberella* Amsel, 1935
Baljurashi (Wadi Marah): April.
Family: Sphingidae
Subfamily: Macroglossinae
Tribe: Macroglossini

*Daphnis nerii* (Linnaeus, 1758)
    Al-Baha (Jebel El-Baher): May.

*Hippotion celerio* (Linnaeus, 1758)
    Al-Baha: May.
    Dhee Ain: April.

*Hyles livornica* (Esper, 1780)
    Al-Baha (Jebel El-Baher): May-June.
    Ghabet Raghdan: June.
    Al-Mandaq: May.
    Al-Mekhwa: April-June.

Subfamily: Sphinginae
Tribe: Acherontiini

*Acherontia atropos* (Linnaeus, 1758)
    Al-Baha (El-Hawya): October.

*Agrius convolvuli* (Linnaeus, 1758)
    Al-Baha: November-April.

Tribe: Sphingini

*Macropoliana asirensis* Wiltshire, 1980
    Al-Baha: February.

Family: Symmocidae

*Apiletria asirica* Gozmany, 1982
    Baljurashi (Wadi Marah): April.

Family: Thaumetopoeidae

*Thaumetopoea jordana* Staudinger, 1895
    Jebel Ibrahim: September.

Family: Tineidae
Subfamily: Hapsiferinae

*Hapsifera punctata* Petersen, 1961
    Baljurashi (Wadi Marah): April.
Hapsiferona glareosa Meyrick, 1912  
Baljurashi (Wadi Marah): April.

Subfamily: Perissomasticinae

Neoepiscardia islamella Petersen & Gaedike, 1982  
Baljurashi (Wadi Marah): April.
Perissomastix amseli (Petersen, 1959)  
Baljurashi (Wadi Marah): April.
Perissomastix asiriella Petersen & Gaedike, 1982  
Baljurashi (Wadi Marah): April.
Perissomastix nigriceps Warren & Rothschild, 1905  
Baljurashi (Wadi Marah): April.

Family: Tortricidae
Subfamily: Olethreutinae
Tribe: Eucosmini

Strepsicrates cryptosema Diakonoff, 1983  
Baljurashi (Wadi Marah): April.

Tribe: Grapholitini

Cydia dissulta Diakonoff, 1983  
Baljurashi (Wadi Marah): April.
Cydia melanoptycha Diakonoff, 1983  
Baljurashi (Wadi Marah): April.
Selania resedana (Obraztsov, 1959)  
Baljurashi (Wadi Marah): April.

Tribe: Olethreutini

Eccopsis wahlbergiana Zeller, 1852  
Baljurashi (Wadi Marah): August.

Subfamily: Tortricinae
Tribe: Archipini

Procrica ammina Diakonoff, 1983  
Baljurashi (Wadi Marah): August.
Tebenna micalis (Mann, 1857)  
Baljurashi (Wadi Marah): April.
Family: Zygaenidae
Subfamily: Zygaeninae

*Reissita simonyi* (Rebel, 1899)
Al-Mikhwa: March-May.

*Collecting methods of specimens of the order Lepidoptera*: Aerial nets for butterflies (suborder: Rhopalocera), and light traps for moths (suborder: Heterocera).

Order: Diptera
Suborder: Nematocera
Family: Ceratopogonidae

*Culicoides kingi* (Austen, 1912)
Al-Mekhwa: May.
Bejurashi: June.

*Culicoides newsteadi* Austen, 1921
Al-Mekhwa: May.
Beni Hassan: June.

*Culicoides oxystoma* Kieffer, 1910
Ghabet Raghdan: September.

Family: Chironomidae
Subfamily: Tanypodinae

*Procladius (Holotanyus) apicalis* (Kieffer, 1918)
Wadi Al-Uqdah: February-March.
Wadi Diyhan: March.
Wadi Shumrukh: April.

*Ablabesmyia (Ablabesmyia) longistyla* Fittkau, 1962
Adnan: September.
Wadi Diyhan: March.
Wadi Ilyab: March.

*Conchapelopia trifascia* (Freeman, 1954)
Adnan: September.

*Larsia rutsburuiemis* (Goetghebuer, 1935)
Al-Mandaq: April.

*Larsia teesdalei* (Freeman, 1955)
Wadi Ilyab: February.

*Paramerina vaillanti* Fittkau, 1962
Wadi Ibrahim: August.
Al-Mandaq: April.
Subfamily: Orthocladiinae

Paraphaenoocladius impensus (Walker, 1856)
  Wadi DIYAHAN: March.

Subfamily: Chironominae

Tribe: Chironomini

Dicrotendipes peringueyanus Kieffer, 1924
  Adnan: September.
Dicrotendipes sudanicus (Freeman, 1957)
  Adnan: September.
  Wadi DIYAHAN: March.
Paratendipes nubilipennis Freeman, 1957
  Adnan: September.
  Wadi Ibrahim: August.
Paratendipes nudisquama (Edwards, 1929)
  Adnan: September.
  Wadi DIYAHAN: March.
  Wadi ILYAB: February.
Polypedilum (Pentapedilum) wittei Freeman, 1955
  Al-FOQA: September.
Polypedilum (Polypedilum) buettikeri Cranston, 1989
  Wadi ILYAB: February.
Polypedilum (Polypedilum) tana Cranston and Judd, 1989
  Adnan: September.
Stictochironomus puripennis (Kieffer, 1921)
  Jebel Ibrahim: September.
  Wadi ILYAB: February.

Tribe: Tanytarsini

Cladotanytarsus pseudomancus (Goetghebuer, 1934)
  Al-MANDAQ: April.
  Al-Baha: February.
Cladotanytarsus reductus (Freeman, 1954)
  Adnan: September.
  Jebel Ibrahim: September.
Rheotanytarsus ringei Lehmann, 1970
  Wadi ILYAB: February.
Tanytarsus mcmillani Freeman, 1958
  Wadi DIYAHAN: March.
Tanytarsus trifidus Freeman, 1958
Wadi Diyhan: March.
Wadi Ibrahim: August.
*Virgatanytarsus nigricornis* (Goetghebuer, 1935)
Wadi Diyhan: March.

**Family: Corethrellidae**

*Corethrella buettikeri* Cranston, 1980
Adnan (W. Iwrakh): September.

**Family: Culicidae**

**Subfamily: Anophelinae**

*Anopheles multicolor* Cambouliu, 1902
All regions of Al-Baha: Throughout the year.
*Anopheles sergentii* (Theobald, 1907)
Al-Baha: June - August.
Al-Mandaq: July.

**Subfamily: Culiciniae**

*Aedes caspius* (Pallas, 1771)
Al-Mekhwa: Throughout the year.
Al-Baha: Throughout the year.
*Aedes vittatus* (Bigot, 1861)
Al-Baha: Throughout the year.
*Culex pipiens* Linnaeus, 1758
All regions of Al-Baha: Throughout the year.

**Family: Psychodidae**

**Subfamily: Phlebotomine**

*Phlebotomus (Paraphlebotomus) alexandri* Sinton, 1928
Al-Dafeer: April to August.
Al-Mandaq: March to November.
*Phlebotomus (Adleriurus) arabicus* Theodor, 1953
Al-Baha: April to December.
Al-Dafeer: April to December.
Al-Mandaq: June to December.
Al-Mekhwa: July to December.
*Phlebotomus (Phlebotomus) bergeroti* Parrot, 1934
All localities: March to December.
*Phlebotomus (Larroussius) orientalis* Parrot, 1936
Al-Mekhwa: October to December.
Phlebotomus (Phlebotomus) papatasi (Scopoli, 1786)
  Al-Dafeer: April to December.
Phlebotomus (Paraphlebotomus) sergenti Parrot, 1917
  Al-Aqiq: April to November.
  Al-Baha: April to December.
  Al-Dafeer: April to December.
  Al-Mekhwa: May to November.
Sergentomyia (Sergentomyia) antennata (Newstead, 1912)
  Al-Mandaq: April.
Sergentomyia (Sintonius) clydei (Sinton, 1928)
  Beni Hassan: April.
Sergentomyia (Sintonius) tiberiadiis (Adler, Theodor & Lourie, 1930)
  Al-Mandaq: March to November.

Family: Simuliidae
Subfamily: Simuliinae
Tribe: Simuliini

Simulium nili Gibbins, 1934
  Baljurashi: April.
  W. Shumruk: April.

Family: Tipulidae
Subfamily Tipulinae
Tribe: Tipulini

Tipula sp.
  Ghabet Raghdan: November.

Suborder: Brachycera
Family: Asilidae
Subfamily: Laphriinae
Tribe: Ctenotini

Lamyra vorax Loew, 1858
  Ghabet Shahba: June.

Family: Bombyliidae
Subfamily: Bombyliinae
Tribe: Bombyliini

Anastoechus trisignatus (Portschinsky, 1881)
  Ghabet Raghdan: May-June.
A preliminary study on the insect fauna of Al-Baha Province, Saudi Arabia...

_Bombylius pallidipilus_ Greathead, 1967
- Ghabet Raghdan: May-June.
- Ghabet Shahba: May-June.

**Subfamily: Toxophorinae**

**Tribe: Gerontini**

_Geron_ sp.
- Ghabet Shahba: May-June.
- Ghabet Raghdan: May-June.

**Subfamily: Anthracinae**

**Tribe: Anthracini**

_Anthrax alruqibi_ El-Hawagry sp. n.
- Al-Mekhwa: March.
- Aqabet Al-Baha-Tihama: April.
- Ghabet Raghdan: May.
- Ghabet Shahba: June.

_Anthrax chionanthrax_ (Bezzi, 1926) [A new record in Saudi Arabia]
- Al-Mekhwa: March-April.

_Anthrax ricardoae_ Greathead, 2003
- Baljurashi: September.
- Ghabet Raghdan: June.
- Ghabet Shahba: May-June.

_Anthrax sticticus_ Klug, 1832
- Al-Mekhwa: March-April.

_Spogostylum dagomba_ (Bowden, 1964)
- Aqabet Al-Baha-Tihama: April-May.

_Spogostylum ocyale_ (Wiedemann, 1828)
- Al-Mekhwa: April.

_Spogostylum niphas_ Hermann, 1907
- Al-Mekhwa: April-May.

_Spogostylum near tripunctatum_ Pallas in Wiedemann, 1818 [A new record in Saudi Arabia]
- Al-Mekhwa: March-April.
- Aqabet Al-Baha-Tihama: April-May.
- Ghabet Shahba: June.

**Tribe: Aphoebantini**

_Cononedys dichromatopa_ (Bezzi, 1925) [A new record in Saudi Arabia]
- Al-Mekhwa: April-May.
- Aqabet Al-Baha-Tihama: April.
Cononedys inornata (Greathead, 1967)
   Al-Mekhwa: April-May.
   Aqabet Al-Baha-Tihama: April.

Tribe: Exoprosopini

Exoprosopa disrupta tihamae Greathead, 1980
   Al-Mekhwa: March-April.
Exoprosopa efflatouni Bezzi, 1925
   Al-Mekhwa: March-May.
Exoprosopa eritreae Greathead, 1967
   Al-Mekhwa: April-May.
Exoprosopa pharaonis Paramonov, 1928
   Al-Mekhwa: March-May.
Exoprosopa pusilla Macquart, 1840
   Al-Mekhwa: March-May.
Heteralonia (Homolonia) aegina (Wiedemann, 1828)
   Aqabet Al-Baha-Tihama: May.
Heteralonia (Homolonia) megerlei (Meigen, 1820)
   Beni Hassan: June.
   Ghabet Raghdan: May-June.
Litorhina metapleuralis Bezzi, 1924
   Adnan (near El-Mandaq): September.
Ligyra astarte Greathead, 1980
   Al-Mekhwa: January-February.
Ligyra monacha (Klug, 1832)
   Al-Mekhwa: January-February.
   Ghabet Raghdan: May-June.
Ligyra virgo (Bezzi, 1924)
   Ghabet Raghdan: May-June.
Micomitra chrystallina Bezzi, 1924
   Baljurashi: September.
Pachyanthrax circe (Klug, 1832)
   Ghabet Raghdan: May-June.
Pterobates chalybaea (Röder, 1887)
   Ghabet Raghdan: May-June.

Tribe: Villini

Caecanthrax arabica (Macquart, 1840)
   Ghabet Shahba: June.
Exhyalanthrax afer (Fabricius, 1794)
   Aqabet Al-Baha-Tihama: April.
Exhyalanthrax beckerianus (Bezzi, 1924)
   Ghabet Raghdan: May.
Exhyalanthrax triangularis Bezzi, 1924
   Aqabet Al-Baha-Tihama: April.
Villa cana (Meigen, 1804)
   Ghabet Raghdan: May.
Villa paniscoides Bezzi, 1912
   Jebel El-Baher: June.

Tribe: Xeramoebini

Petrorossia letho (Wiedemann, 1828)
   Ghabet Shahba: May-June.
Petrorossia tropicalis Bezzi, 1921
   Ghabet Shahba: May-June.
Xeramoeba semirufa (Sack, 1909)
   Ghabet Shahba: May-June.

Anthrax alruqibi El-Hawagry, sp. n.
urn:lsid:zoobank.org:act:5CF1182F-656F-4EB1-929C-CD2BA4E7CB4C
http://species-id.net/wiki/Anthrax_alruqibi
Figs 2–4

Remarks. This species resembles Anthrax tureus Greathead, 1980 in size, vestiture, and venation. However, it differs in having faint brownish spots on r-m crossvein, on the origin of vein R2+3, on the middle of cell br slightly after origin of vein R1, and another fainter and smaller spot may be present on crossvein bm-cu. It differs also in having the wing very feebly tinged brownish at the base. Further, the sides of the 2nd and 4th tergites have tufts of long blackish scales and scaly hairs. The epiphallus terminates in a forceps-like process slightly inclined dorsally and continued with a long flange directed ventrally.

Key to the Arabian species of genus Anthrax Scopoli

1   Wing entirely hyaline, without any infuscated pattern; scales on abdomen mostly white; length 8mm .................................. tureus Greathead, 1980
   – Wing with an infuscated pattern composed either of a dark blackish brown infuscation on at least the basal third, or with spots on the cross-veins; scales on abdomen mostly black; length 8mm or more .............................................. 2

2   Wing pattern composed of spots on cross-veins and with only costal cell and bases of basal cells brownish .......................................................... 3
   – Wing pattern composed of extensive basicostal infuscation or numerous irregular blackish brown confluent spots ....................................................... 4
Wing with brown spots on cross-veins, origin of R$_{2+3}$ and fork of R$_{4+5}$; sides of abdominal tergites (except the 1st) with black hairs; gonocoxites truncate without long posterior processes; length about 10mm.............*Sticticus* Klug, 1832

– Wing with spots on cross-veins and origin of R$_{2+3}$ faint brown, fork of R$_{4+5}$ without a spot; sides of 3rd abdominal tergite with tufts of long snowy whitish scales and scaly hairs, and sides of 3 last tergites with long white hairs seen lower to the black bristles, length about 8mm... *alruqibi El-Hawagry* sp. n.

4 Wing pattern very dark blackish-brown with a clear-cut margin ...............5

– Wing pattern brown with a diffuse margin merging with darker spots on cross-veins.........................................................*decisus* Bezzi, 1924

5 Clear area with one or two small isolated spots ...... *aygulus* Fabricius, 1805

– Clear area without isolated spots..........................*fuscipennis* Ricardo, 1903

**Etymology.** A patronymic name (*A. alruqibi*) is proposed in honor of Dr Saeid Al-Ruqib, dean of scientific research in Al-Baha University, Saudi Arabia.

**Description.** *Holotype male.* Dull black medium sized species. Body length: 8 mm. Wing length: 9 mm.

**Head:** Frons with whitish pruinose, tending to be silvery at margins, covered with black hairs, and yellowish to brownish scales at the middle, and the scales become longer, more dense and pale above the antennae; ocellar tubercle black; occiput with whitish pruinose, whitish scales at eye margin, short sparse black hairs becoming more dense behind the ocellar tubercle, and long brownish scaly hairs around the occipital cavity; face covered with whitish long scaly hairs and long black hairs; eyes at upper part of frons separated by about twice width of ocellar triangle; antennae black with some pale brownish pruinose. **Thorax:** Scutum and scutellum covered with fine white and yellowish to brownish white scaly hairs; bristles and hairs black; anterior corners with snowy white scaly hairs, being shaggy and more slender at fore margin; hind margin of scutellum with short white scales; legs black; hairs and bristles black; coxae and

![Figure 2. Wing of Anthrax alruqibi El-Hawagry sp. n.](image-url)
tibiae covered with white scales, mixed with brownish white ones on tibiae; claws black; pulvilli grayish; wing hyaline (Fig. 2) with a feeble basicostal infuscation, with a faint brownish spots on r-m, on the origin of vein R_{2+3}, on the middle of cell br slightly af-

**Figure 3.** Male genitalia of *Anthrax alruqibi* El-Hawagry sp. n.

**Figure 4.** Spermatheca of female *Anthrax alruqibi* El-Hawagry sp. n.
ter origin of vein R1, and another fainter and smaller one may present also on bm-cu crossvein; squama with a short white fringe; plumula white; coastal hook black with white scales; halteres brown with knobs white at tip. **Abdomen:** Corners of 1st tergite with snowy whitish tuft of long scaly hairs; sides of 2nd and 4th tergites with tufts of long blackish scales and scaly hairs; sides of 3rd tergite with tufts of long snowy whitish scales and scaly hairs; bristles of abdomen black and strongly developed; sides of 3 last tergites with long white hairs seen lower to the black bristles; posterior margin of all tergites with snowy whitish scales, becoming more dense and broad at sides especially at sides of 6th tergite; yellowish white scaly hairs and small scales present across mid-line of 2nd, 3rd, and 4th tergites; tergites with dense black scales lying flat especially on sides of 4th and 5th ones. **Hypopygium** (Fig 3): Posterior processes of gonocoxites long and narrow; epiphallus terminating in a forceps-like process slightly inclined dorsally and continued with a long flange directed ventrally. **Patatype female.** Similar to holotype male; spermatheca (Fig. 4) weakly sclerotized, with globular capsules, ejection apparatus short.

**Specimens examined.** **Holotype male,** Aqabet Al-Baha-Tihama, Al-Baha Province, Saudi Arabia (20.00000°N, 41.43758°E, 1300 m.a.s.l.), 18-19.IV.2012 (El-Hawagry). Paratypes: 1 female, the same holotype data; 1 male, Al-Mekhwa, 21.III.2012 (El-Hawagry); 1 male, Ghabet Raghdan, 12.V.2012 (El-Hawagry); Ghabet Shahba, 8.VI.2012 (El-Hawagry). Holotype and paratypes are deposited in Efflatoun collection, Entomology Department, Faculty of Science, Cairo University, Egypt (**EFC**).

**Family: Mydidae**
**Subfamily: Mydinae**

*Mydas* sp. [A new record in Saudi Arabia]
   Al-Mekhwa: April.

**Family: Tabanidae**
**Subfamily: Tabaninae**
**Tribe: Tabanini**
   *Tabanus mordax* Austen, 1911
   Al-Baha: July.

**Tribe: Haematopotini**

*Haematopota coronata* Austen, 1908
   Al-Mandaq: April.
   Jebel Ibrahim: September.
   Wadi Diyhan: September.

*Haematopota* sp.
   Wadi Diyhan: May.
   Wadi Gala: May.
Family: Therevidae
Subfamily: Therevinae

Thereva sp.
   Al-Mekhwa: January-March.
   Dhee Ain: April.

Suborder: Cyclorrhapha
Section: Aschiza
Family: Syrphidae
Subfamily: Eristalinae
Tribe: Eristalini

Eristalis taeniops Wiedemann, 1818
   Ghabet Raghdan: May-June.
   Al-Baha (Jebel El-Baher): June.

Tribe: Milesiini

Chalcosyrphus sp.
   Ghabet Raghdan: May-June.
   Al-Baha (Jebel El-Baher): June.

Subfamily: Syrphinae
Tribe: Syrphini

Eupeodes corollae (Fabricius, 1794)
   Ghabet Raghdan: May-June.
   Al-Baha (Jebel El-Baher): June.

Section: Schizophora
Subsection: Acalyptratae
Family: Chloropidae

Oscinella (Cyclocercula) nartshukiana Beschovski, 1978
   Baljurashi: May.
Oscinella (Paroscinella) acuticornis Becker, 1912
   Baljurashi: May.
Polyodaspis robusta (Lamb, 1918)
   Al-Mekhwa: March.
Lagaroceras sequens Becker, 1910
   Al-Baha: June.
Family: Diopsidae

*Diopsis apicalis* Dalman, 1817
   Al-Mekhwa: December-February.
   Dhee Ain: February-May.

*Sphyracephala beccarii* (Rondani, 1873)
   Al-Mekhwa: December-February.
   Dhee Ain: February-May.

Family: Drosophilidae

Subfamily: Drosophilinae

Tribe: Drosophilini

*Drosophila melanogaster* Meigen, 1830
   Common species.

*Drosophila* sp.
   Al-Baha (Al-Hawya): May-June.

Family: Milichiidae

Subfamily: Madizinae

*Desmometopa varipalpis* Malloch, 1927
   Al-Mekhwa: March

Family: Tephritidae

Subfamily: Dacinae

Tribe: Dacini

*Dacus frontalis* Becker, 1922
   Al-Mekhwa: February.
   Dhee Ain: September.

*Dacus vertebratus* Bezzi, 1908
   Dhee Ain: September.

*Bactrocera zonata* (Saunders, 1842)
   Al-Mekhwa: February.
   Baljurashi: September.
   Beni Hassan: August.
   Dhee Ain: September.

Subfamily: Tephritinae

Tribe: Noeetini

*Ensina sonchi* (Linnaeus, 1764) Host plant: Asteraceae
   Ghabet Raghdan: June.
Tribe: Tephritini

*Capitites augur* (Frauenfeld, 1857) Host plant: *Pulicaria Arabica*
   Al-Mekhwa: May.

Family: Ulidiidae
Subfamily: Ulidiinae
Tribe: Ulidiini

*Physiphora ?alceae* (Preyssler, 1791)
   Al-Mekhwa: February.

Subsection: Calyptratae
Family: Anthomyiidae
Subfamily Anthomyiinae
Tribe: Anthomyiini

*Anthomyia benguellae* Malloch, 1924
   Ghabet Amadan: May.
   Wadi Turabet Zahran: October.

Family: Calliphoridae
Subfamily: Calliphorinae

*Calliphora vicina* (Robineau-Desvoidy, 1830)
   Al-Baha (Jebel Al-Baheer): February to July.

Subfamily: Chrysomyinae

*Chrysomya albiceps* (Wiedemann, 1819)
   Al-Baha City: September.
   Wadi Turabet Zahran: May.

*Chrysomya regalis* Robineau-Desvoidy, 1830
   Wadi Galla: May.
   Wadi Turabet Zahran: May.

Subfamily: Luciliinae

*Lucilia sericata* (Meigen, 1826)
   Wadi Turabet Zahran: May.
Subfamily: Polleniinae

*Pollenia hungarica* Rognes, 1987
  - Wadi Dahyan: May.
  - Wadi Turabat Zahran: May.

Subfamily: Rhiniinae

*Cosmina viridia* Townsend, 1917
  - Wadi Galla: May.
  - Wadi Genouna.

Family: Hippoboscidae

Subfamily Hippoboscinae

*Hippobosca camelina* Leach, 1817
  - All localities (on camels): Throughout the year

*Hippobosca equina* Linnaeus, 1758 [? A new record in Saudi Arabia]
  - Al-Baha [Al-Maslakh] (on cattle): Throughout the year

*Hippobosca longipennis* Fabricius, 1805
  - All localities (on dogs): Throughout the year

*Hippobosca variegata* Megerle, 1803
  - All localities (on camels and cattle): Throughout the year

Subfamily Lipopteninae

*Melophagus ovinus* (Linnaeus, 1758)
  - All localities (on sheep and goats): Throughout the year

Family: Muscidae

Subfamily: Atherigoninae

Tribe: Atherigonini

*Atherigona humeralis* Wiedemann, 1830
  - Dhee Ain: October.

*Atherigona* sp.
  - Al-Mekhwa: April-July.

Subfamily: Muscinae

Tribe: Muscini

*Musca albina* Wiedemann, 1830
  - Al-Mekhwa: March-July.
Musca domestica domestica Linnaeus, 1758
   Common everywhere and all the time.
Musca lucidula (Loew, 1856)
   Al-Baha (Shahba): April.

**Subfamily: Phaoniinae**

**Tribe: Phaoniini**

Helina coniformis (Stein in Becker, 1903)
   Baljurashi: August.
Helina lucida (Stein, 1913)
   Baljurashi: March.

**Subfamily: Coenosiiinae**

**Tribe: Limnophorini**

Lispe nivalis Wiedemann, 1830
   Wadi Turabet Zahran: October.

**Tribe: Coenosiiini**

Coenosia humilis Meigen, 1826
   Al-Baha (Jebel El-Baher): April-August
   Al-Mekhwa: March-September.

**Family: Oestridae**

Oestrus ovis (Linnaeus, 1958)
   Al-Maslakh (on sheep): March to August.
Przhevalskiana silenus Brauer, 1858
   Al-Maslakh (on goats): March to August.

**Family: Sarcophagidae**

**Subfamily: Sarcophaginae**

Engelisca adhamae Lehrer and Abou-Zied, 2008
   Al-Baha (Jebel Al-Baher): March to August.
Liosarcophaga babiyari (Lehrer, 1995)
   Al-Baha (Jebel Al-Baher): March to November.
Sarcophaga dux Thompson, 1869
   Al-Baha (Jebel Al-Baher): February to September.
Family: Tachinidae

Exorista sp.

Ghabet Shahba: May-July.

*Collecting methods of specimens of the order Diptera:* Aerial nets, sweeping nets and malaise traps were the main methods. However, other methods were effective too as bait traps for Calliphoridae and Sarcophagidae; yellow pan traps for Chloropidae, Chironomidae and Syrphidae; sticky traps for Psychodidae; and light traps for Ceratopogonidae and Psychodidae.

Order: Hymenoptera
Suborder: Apocrita
Family: Agaonidae
Subfamily: Otitesellinae

Otitesella rotunda van Noort, 1997

Jebel Ibrahim: ?

Family: Apidae
Subfamily: Apinae
Tribe: Apini

Apis florae Fabricius, 1787

Wadi Galla: May-September.
Wadi Turabet Zahran: May-October.
Dhee Ain: May-August.

Apis mellifera Linnaeus, 1758

Common everywhere and all the time

Tribe: Melectini

Melecta sinaitica (Alfken, 1937)

Dhee Ain: May.

Subfamily: Xylocopinae
Tribe: Xylocopini

Xylocopa aestuans (Linnaeus, 1758)

Wadi Turabet Zahran: March-April.

Xylocopa sp.

Ghabet Raghdan: May-June.
Family: Braconidae
Subfamily: Braconinae
Tribe: Aphrastobraconini

*Iphiaulax agnathus* Kohl, 1906
   Al-Baher: May.

Family: Crabronidae
Subfamily: Bembicinae
Tribe: Bembicini

*Bembix oculata* Panzer, 1801
   Jebel El-Baher: June-July.

*Bembix* sp.
   Al-Mekhwa: February-April.

Subfamily: Crabroninae
Tribe: Crabronini

*Dasyproctus arabs* Kohl, 1894
   Jebel El-Baher: May-July.

Subfamily: Philanthinae

*Cerceris albicincta* Klug, 1845
   Ghabet Shahba: June-August.
*Cerceris alboatra* Walker, 1871
   Jebel El-Baher: May-August.
*Cerceris sabulosa* Panzer, 1799
   Jebel El-Baher: May-August.
*Philanthus triangulum* Fabricius, 1775
   Jebel El-Baher: May-August.

Family: Eumenidae

*Eumenus* sp.
   Wadi Galla: May.
*Eumenes dimidiatipennis* Saussure, 1852
   Wadi Turabet Zahran: May-August.
Family: Formicidae
Subfamily: Aenictinae

*Aenictus arabicus* Sharaf & Aldawood, 2012-12-23
Aqabet Al-Baha-Tihama: April.

Subfamily: Dolichoderinae

*Tapinoma wilsoni* Sharaf & Aldawood, 2012
Dhee Ain: May-September.

*Technomyrmex briani* Sharaf, 2009
Ghabet Shahba: May.

*Technomyrmex setosus* Collingwood, 1985
Baljurashi (Al-Qama'): May.
Ghabet Shahba: May.
Wadi El-Zarayeb: May.

Subfamily: Dorylinae

*Dorylus* sp.
Wadi Turabet Zahran: May.

Subfamily: Formicinae

*Anoplolepis longitarsus* Collingwood & Agosti, 1996
Baljurashi (Al-Qama'): May.

*Camponotus aegyptiacus* Emery, 1915
Wadi Al-Uqdah: August.
Wadi Aridah: September.
Dhee Ain: May.

*Camponotus iglii* Forel, 1894
Wadi El-Zarayed: May.
Dhee Ain: May.

*Camponotus sericeus* Fabricius, 1798
Wadi Aridah: September.
Wadi Dhiyan: September.
Dhee Ain: May.

*Camponotus flavomarginatus* Mayr, 1862
Al-Baha City: May.
Baljurashi (Al-Qama'): May.
Ghabet Raghdan: May.
Camponotus xerxes Forel, 1904
Wadi Aridah: October.

Camponotus sp.
Amadan: May.
Al-Baha City: May.
Baljurashi (Al-Qama'): May.
Ghabet Raghdan: May.
Ghabet Shahba: May.
Wadi El-Zarayeb.

Cataglyphis albicans (Roger, 1859)
Al-Baha City: May.
Baljurashi (Al-Qama'): May.
Ghabet Raghdan: May.
Ghabet Shahba: May.

Cataglyphis desertorum (Forel, 1894)
Wadi Aridah: February.

Cataglyphis emmae (Forel, 1909)
Al-Baha: March.

Cataglyphis holgerseni Collingwood & Agosti, 1996
Al-Baha City: May.
Baljurashi (Al-Qama'): May.
Ghabet Raghdan: May.
Ghabet Shahba: May.

Cataglyphis niger (Andre, 1882)
Wadi Arida: March.

Cataglyphis semitonsa Santschi, 1926
Al-Baha: March.

Savignyi savignyi (Dufour, 1862)
Amadan: May.
Ghabet Raghdan: May.

Lepisiota canescens Emery, 1897
Al-Baha: March.

Lepisiota obtusa (Emery, 1901)
Amadan: May.
Baljurashi (Al-Qama'): May.
Ghabet Raghdan: May.
Wadi El-Zarayeb: May.

Lepisiota opaciventris (Finzi, 1936)
Baljurashi (Al-Qama'): May.
Wadi El-Zarayeb: May.

Paratrechina longicornis (Latreille, 1802)
Dhee Ain: May.
Subfamily: Myrmicinae

*Carebara abuhurayri* Sharaf & Aldawood, 2011  
Dhee Ain: May.

*Crematogaster affabilis* Forel, 1907  
Amadan: May.  
Al-Baha City: May.  
Dhiyan: September.  
Baljurashi (Al-Qama‘): May.  
Ghabet Raghdan: May.  
Wadi El-Zarayeb: May.

*Leptothorax angulatus* Mayr, 1862  
Aridah: September.

*Leptothorax* sp.  
Ghabet Shahba: May.

*Messor ebininus* Santschi, 1927  
Amadan: May.  
Baljurashi (Al-Qama‘): May.  
Ghabet Raghdan: May.  
Wadi El-Zarayeb: May.

*Messor* sp.  
Amadan: May.  
Wadi El-Zarayeb: May.

*Monomorium destructor* (Jerdon, 1851)  
Dhee Ain: May.

*Monomorium dryhimi* Aldawood & Sharaf, 2011  
Amadan: May.  
Baljurashi (Al-Qama‘): May.

*Monomorium? exiguum* Forel, 1894  
Dhee Ain: May.

*Monomorium mayri* Forel, 1902  
Amadan: May.  
Ghabet Raghdan: May.  
Ghabet Shahba: May.  
Wadi El-Zarayeb: May.

*Monomorium salomonis* (Linnaeus, 1758)  
Amadan: May.  
Baljurashi (Al-Qama‘): May.  
Ghabet Shahba: May.

*Monomorium sarawatensis* Sharaf & Aldawood sp. n.  
Aqabet Al-Baha-Tihama: April.

*Monomorium* sp.  
Ghabet Shahba: May.
Dhee Ain: May.

*Nesomyrmex angulatus* Mayr, 1862
- Baljurashi (Al-Qama'): May.
- Dhee Ain: May.

*Pheidole megacephala* (Fabricius, 1793)
- Wadi Al-Uqdah: August.

*Pheidole ?sculpturata* Mayr, 1866
- Dhee Ain: May.

*Pheidole* sp.
- Amadan: May.
- Baljurashi (Al-Qama'): May.
- Ghabet Raghdan: May.
- Ghabet Shahba: May.
- Wadi El-Zarayeb: May.

*Solenopsis elhawagryi* Sharaf & Aldawood, 2012
- Baljurashi (Al-Qama'): May.

*Strumigenys* sp.
- Dhee Ain: September.

*Tetramorium amalae* Sharaf & Aldawood, 2011
- Amadan: May.

*Tetramorium caldarium* Roger, 1857
- Baljurashi (Al-Qama'): May.

*Tetramorium sericeiventre* Emery, 1877
- Amadan: May.
- Baljurashi (Al-Qama'): May.
- Ghabet Raghdan: May.
- Ghabet Shahba: May.
- Wadi El-Zarayeb: May.

*Tetramorium latinode* Collingwood & Agosti, 1996
- Amadan: May.

*Tetramorium caldarium* (Roger, 1857)
- Al-Baha City: May.
- Baljurashi (Al-Qama'): May.

*Tetramorium depressiceps* Menozzi, 1933
- Amadan: May.
- Al-Baha City: May.
- Ghabet Raghdan: May.
- Ghabet Shahba: May.

*Tetramorium* sp.1
- Al-Baha City: May.
- Baljurashi (Al-Qama'): May.

*Tetramorium* sp.2
- Dhee Ain: May.
Subfamily: Ponerinae

Anochetus traegaordhi Mayr, 1904
Dhee Ain: September.

Subfamily: Pseudomyrmecinae

Tetraponera bifoveolata Mayr, 1895
W. Ibrahim: March.
W. Sanakah: September.

Monomorium sarawatensis Sharaf & Aldawood, sp. n.
urn:lsid:zoobank.org:act:9E547C91-E6B5-4E42-9DC2-386D846C4167
http://species-id.net/wiki/Monomorium_sarawatensis
Figs 5–15

Measurements and indices:

| Abbreviation | Description |
|--------------|-------------|
| TL           | Total Length; the outstretched length of the ant from the mandibular apex to the metasomal apex. |
| HW           | Head Width; the maximum width of the head behind eyes in full face view. |
| HL           | Head Length; the maximum length of the head, excluding the mandibles. |
| CI           | Cephalic Index (HW × 100/HL). |
| SL           | Scape Length, excluding basal neck. |
| SI           | Scape Index (SL × 100/HW). |
| EL           | Eye Length; the maximum diameter of the eye. |
| ML           | Mesosoma Length; the length of the mesosoma in lateral view, from the point at which the pronotum meets the cervical shield to the posterior base of the propodeal lobes or teeth. |
| PRW          | Pronotal width, maximum width in dorsal view. |
| PL           | Petiole Length; the maximum length measured in dorsal view, from the anterior margin to the posterior margin. |
| PW           | Petiole Width; maximum width measured in dorsal view. |
| PPL          | Postpetiole Length; maximum length measured in dorsal view. |
| PPW          | Postpetiole Width; maximum width measured in dorsal view. |

All measurements are in millimeters and follow the standard measurements (Bolton 1987).

This new species is a member of the Monomorium monomorium-group as defined by Bolton (1987), but it does not fit any of the Monomorium species in Bolton’s key to the Afrotropical species or the key to the Arabian species given by Collingwood and Agosti (1996). Monomorium sarawatensis superficially seems to be similar to M.
Figures 5–6. SEM of *Monomorium sarawatensis* sp.n., paratype worker, head in full-face view.
Figures 7–8. SEM of *Monomorium sarawatensis* sp.n., paratype worker 7 body in profile, 8 head in profile.
affabile Santshi and M. malatu Bolton described from Zaire. The three species share the following characters: dorsum and sides of propodeum and waist blanketed everywhere with dense reticulate-punctate sculpture; fourth (basal) tooth of mandible slightly smaller than the third, and not broadly separated; genae faintly longitudinally striated; body pilosity clubbed. However, sarawatensis can be easily separated by the uniform yellow color, whereas the color of the latter species is dark brown to blackish-brown. In comparison with affabile, sarawatensis is consistently larger (TL 1.77-2.13), versus (TL 1.5) and the eyes are smaller (EL 0.17-0.22 × HW, versus EL 0.24 × HW).

The type locality is a farm planted with Annona squamosa L. (Annonaceae), Prunus persica (L.), P. Amigdalis (Mill.) (Rosaceae), Psidium guajava L. (Family: Myrtaceae), Zea mays ssp. mays L. (Family: Poaceae), in addition to banana, and mango. The new species was found nesting inside a woody fruit of Annona squamosa. No males or queens were seen.

**Diagnosis:** This new species is characterized by a combination of the following characters: eyes with five-six ommatidia in the longest row; genae faintly longitudinally striated; metanotal groove deep and broad; propodeal dorsum making a weak obtuse angle with propodeal declivity; mesosoma and waist densely reticulate-punctate; body pilosity clubbed.

**Key to the Arabian species of the Monomorium monomorium-group**

1. Antennae with 11 segments ...............................................................2
   – Antennae with 12 segments ..........................................................5
2. Terminal funicular segment broadly swollen..................*clavicorne* Andre, 1883
   – Terminal funicular segment enlarged, not Swollen .......................3
3. Mesosoma without hairs ..............................................................*aeyade* Collingwood & Agosti, 1996
   – Mesosoma with hairs ..................................................................4
4. Mesonotum with at least six pairs of hairs, two on pronotum, four on mesonotum; antennal scapes shorter (SI 74-84); CI higher (74–80) ..........................................................*exiguum* Forel, 1894
   – Mesosoma with fewer hairs, one pair on pronotum and two one mesonotum; antennal scapes slightly longer (SI 90); CI smaller (71) ..............................................*baushare* Collingwood & Agosti, 1996
5. Mesosoma and waist densely and conspicuously reticulate-punctate ................*sarawatensis* sp. n.
   – Mesosoma and waist smooth and shining ......................................6
6. Head, in full-face view, with long hairs surrounding posterior margin and head sides forming a fringe; metanotal groove shallow ..........................................................*qarahe* Collingwood & Agosti, 1996
   – Head, in full-face view, without a fringe of long hairs; metanotal groove sharp and distinct ............................................................7
7. Larger yellow species; TL 1.70–2.30, HW 0.40; metanotal groove sharp but too small to break the dorsal outline; pronotum with a single pair of curved hairs .............................................*montanum* Collingwood & Agosti, 1996
Description. Measurements: Holotype worker. TL 1.98, HL 0.52, HW 0.42, SL 0.38, ML 0.56, EL 0.08, PRW 0.25, PL 0.14, PW 0.12, PPL 0.11, PPW 0.14, SI 90, CI 81.

Paratypes. TL 1.77-2.13, HL 0.48-0.53, HW 0.36-0.42, SL 0.30-0.39, ML 0.45-0.56, EL 0.07-0.08, PRW 0.21-0.25, PL 0.09-0.14, PW 0.09-0.12, PPL 0.08-0.11, PPW 0.11-0.14, SI 81-95, CI 75-84. (N=12).

Holotype worker. Head distinctly longer than broad, with a nearly straight posterior margin and shallowly convex sides; head dorsum smooth and shining with few scattered hair-pits; anterior clypeal margin feebly concave between a pair of obtusely projecting angles which separate anterior and lateral margins; clypeal carinae broadly separated and subparallel; eyes with five-six ommatidia in the longest row (EL 0.17-0.22x HW). With head in profile the posterior margins of eyes at the midlength of sides; antennal scapes, when laid back from their insertions, failing to reach posterior margin of head; genae faintly longitudinally striate. Mesosoma in lateral view with the promesonotum straight or feebly convex; metanotal groove deep and broad; propodeal dorsum making a weak obtuse angle with propodeal declivity; mesosomal pilosity few and sparse, two pairs of erect setae on pronotum, five or more on mesonotum, three on propodeum; propodeal spiracle small and pinhole-like; mesosoma densely reticulate-punctate except for pronotal sides which are nearly smooth and shining. Petiolar node high and acuminate in profile, usually with two pairs of erect setae, petiolar peduncle thick and short. Postpetiole in dorsal view clearly broader than long. Petiole and postpetiole densely reticulate-punctate. Color uniformly yellow. Body pilosity clubbed.

Specimens examined. Holotype worker. Aqabet Al-Baha-Tihama, Al-Baha Province, Saudi Arabia (20.00000°N, 41.43758°E, 1300 m.a.s.l.), 19.IV.2012 (M. R. Sharaf), deposited in King Saud Museum of Arthropods (KSMA), College of Food and Agriculture Sciences, King Saud University, Riyadh, Kingdom of Saudi Arabia.

Paratypes. 33 workers, same locality and data as holotype; 1 deposited in the Muséum d’Histoire Naturelle, Geneva, Switzerland (Dr Bernhard Merz); 1 in Naturhistorisches Museum, Basel, Switzerland (Mrs. Isabelle Zürcher-Pfander); 1 in California Academy of Science (Dr Brian Fisher); 1 in the Museum of Comparative Zoology, Harvard University, Cambridge, USA (Prof. E. O. Wilson); 1 in the Division of Entomology (Snow Entomological Collections), University of Kansas Natural History Museum, Lawrence, Kansas, USA (Prof. Michael S. Engel); 1 in World Museum Liverpool, Liverpool, U.K (Mr. Tony Hunter), 1 in The Natural History Museum, London (Mr. Barry Bolton); the remaining paratypes are in the King Saud Museum of Arthropods, King Saud University, Riyadh, Saudi Arabia.
Figures 9–10. SEM of *Monomorium sarawatensis* sp.n., paratype worker 9 mesosoma in profile 10 propodeal spiracle.
Figures 11–12. SEM of *Monomorium sarawatensis* sp. n., paratype worker 11 clubbed hairs 12 petiole and postpetiole.
Figures 13–15. Automontage of *Monomorium sarawatensis* sp.n., paratype worker 13 body in profile 14 body in dorsal view 15 head in full-face view.
**Note.** Specimens were photographed by Erin Prado using a JVC KY-F70B 3CCD digital camera attached to a Leica M420 stereomicroscope. All digital images were processed using Auto-Montage (Syncroscopy, Division of Synoptics Ltd, USA) software. Images of the specimens are available in full color on www.antweb.org.

**Family: Ichneumonidae**  
**Subfamily: Pimplinae**

*Pimla* sp.  
Jebel El-Baher: May-June.

**Family: Pompilidae**  
**Subfamily: Pepsinae**  
**Tribe: Pepsini**

*Cyphononyx bretonii* (Guérin, 1843)  
Wadi Turabet Zahran: May.

**Family: Scoliidae**  
**Subfamily: Campsomerinae**  
**Tribe: Campsomerini**

*Micromeriella hyalina* (Klug, 1832)  
Gebel El-Baher: May.

*Campsomeriella collaris* (Fabricious, 1775)  
Dhee Ain: May-July.

*Campsomeriella thoracica* (Fabricius, 1787)  
Al-Baha City (Jebel El-Baher): May.

**Subfamily: Scoliinae**

*Scolia* sp.  
Al-Mekhwa: March.  
Al-Baha City (Jebel El-Baher): May.

**Family: Sphecidae**  
**Subfamily: Ammophilinae**

*Ammophila arabica* Kirby, 1900  
Al-Mekhwa: March.  
Jebel El-Baher: May-August.

*Ammophila erminea* Kohl, 1901  
Jebel El-Baher: May-August.
Podalonia tydei (Le Guillou, 1841)  
El-Baha: June.

**Subfamily: Sphecinae**

Sphex fumicatus Christ, 1791  
Ghabet Raghdan: June.

**Family: Vespidae**  
**Subfamily: Eumininae**

*Delta hottentotum elegans* (De Saussure, 1852)  
Ghabet Raghdan: June.  
*Delta dimidiatipenne* (de Saussure, 1852)  
Ghabet Raghdan: June.

**Subfamily: Polistinae**  
**Tribe: Ropalidiini**

Belonogaster juncea juncea (Fabricius, 1781)  
Gebel El-Baher: May.

**Subfamily: Vespinae**

Vespa orientalis Linnaeus, 1771  
Wadi Turabet Zahran: May-August.  

*Collecting methods of specimens of the order Hymenoptera:* Aerial nets, sweeping nets and malaise traps were the main methods; however, the yellow pan traps were effective for small Hymenoptera as well, and ants (Formicidae) were collected using tray sifting.

**Faunal richness and Zoogeographic affinities**

25% of the known faunal richness has been accounted for by order Lepidoptera, Diptera comprise 22%, Coleoptera 18%, Hymenoptera 14%, Hemiptera 7%, and Orthoptera 6%. The other insect orders made up 8% of all recorded species.

Insect species richness in Al-Baha Province has been compared between sectors, and with the total species richness in the province as a whole. Results demonstrated that the two sectors (Tihama and Al-Sarah) are varied in their species composition (Fig. 16). The figure summarizes variation in species composition in two ways: firstly, by the number of species shared between the two sectors, and secondly, by the number of species unique to each sector. It was found that 465 species have been recorded from...
Al-Sarah, with 408 of them (88%) unique; while 174 species have been recorded from Tihama, with 117 of them (67%) unique. However, only 57 species have been recorded as common to both sectors, representing only about 10% of all species recorded from the province as a whole. These results clearly suggest that each of the two sectors of Al-Baha Province (Tihama and Al-Sarah) has its own insect community.

Most of insect species here recorded from Al-Baha Province are characteristic of the Afrotropical region. Table (1) indicates the broad scale distribution patterns suggesting a closer affiliation to the Afrotropical region than to the Palearctic region or the Eremic zone. This affiliation was obviously greater in Tihama (69%) than in Al-Sarah (60%). The study showed Palearctic elements comprising 27% or less in both sectors, in addition to some few Oriental elements (3% or less).

### Discussion

The south-western part of Saudi Arabia, including Al-Baha Province, is considered by many authors to be the most important part of the country and the Arabian Peninsula in general in terms of vegetation and speciation. This area is similar to the high altitude mountains of north-eastern and eastern parts of Africa, both floristically and ecologically (Zohary 1973 and Eig 1938).
Insect diversity (richness) shows a positive correlation with plant diversity (El-Moursy et al. 2001), in other words, the species diversity of consumers should depend to some degree upon the diversity, as well as the productivity, of their food resources (Davidson 1977). Hence, the variation in insect richness in the two sectors of Al-Baha Province seems to reflect their varying vegetation patterns. This variation in insect richness could also be a result of the distance (more than 25km) and altitude (more than 1500 m) between the two sectors, where distance and height could affect the ability of species to disperse between sectors (Fisher 1996). Consequently, each of the two sectors has its own insect community. There is also little doubt that abiotic conditions (relative humidity, soil moisture, temperature, etc.) may affect this pattern of insect distribution in Al-Baha Province.

Considering the insect fauna in Al-Baha Province as a whole, we can obviously conclude that Al-Baha has an extraordinary complex and interesting insect fauna. This may be attributed to its geographical position at the junction of two of the world’s main zoogeographical regions: the Afrotropical and the Palaeartic (Hölzel 1998).

The vegetation of Arabian Peninsula is more or less similar to that of the northeastern and northern parts of the African Continent. So, some present day biogeographers are of the opinion that the biogeographical divisions within the northeastern and eastern parts of Africa should be extended towards east to cover the regions within the Arabian Peninsula too, namely “Afromontane Archipelago”, covering the high altitude regions of the southern Al-Sarawat Mountains (Zohary 1973; Eig 1938).

Indeed, the present preliminary study is not sufficient to draw more than general conclusions about insect zoogeography in Al-Baha Province. However, the insect faunal composition in this region has an Afrotropical flavor as the Afrotropical elements have been predominantly indicated. Consequently, we tend to agree with those biogeographers who believe that parts of the Arabian Peninsula, including Al-Baha Province, should be included in the Afrotropical region rather than in the Palaeartic region or the Eremic zone, but we cannot indicate the northern border of this region exactly. Especially, Zoogeographical regions often have definable boundaries due to physical barriers, such as mountains, deserts, or water. However, where no such barriers exist, each region gradually merges with the next, pockets of one extending some way into the other due to variable environmental conditions. Such transitional zones may themselves have certain definable characteristics and are often classified as distinct regions. The desert between the Palaeartic and Afrotropical regions is one such zone, and is known as the Afroeremic zone (de Lattin 1967), the Eremic zone (Uvarov 1938; Grethead 1980; Larsen 1984) or the Saharo-Arabian subregion (Takhtajan 1986). However, the northern border of the Afrotropical Region was proposed to be along the Tropic of Cancer (Sclater 1858; Wallace 1876).

We think that the exact indication of the northern border of the Afrotropical region requires more study, not only of the insect fauna but also of the flora and other animal faunas in central deserts, south, south-eastern, and south-western parts of Saudi Arabia.
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