A contribution to the knowledge of Odonata (Insecta) from West Azarbaijan province, northwestern Iran

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Abstract

The fauna of Odonata from West Azarbaijan province is studied in this paper. Totally 25 species from 19 genera and 8 families (including, Aeshnidae, Calopterygidae, Coenagrionidae, Cordulegastridae, Corduliidae, Euphaeidae, Gomphidae and Libellulidae) were collected.

Key words: Odonata, Fauna, West Azarbaijan, Iran.

Zusammenfassung

**Introduction**

Odonata are an order of aquatic palaeopterous insects with 5,680 valid species of the world (KALKMAN et al. 2008). Adult odonates are medium to large in size, often conspicuous and/or brightly colored insects and are aerial predators hunting by sight. They generally are found at or near freshwater although some species roam widely and may be found far from their breeding sites. The larvae are predatory, aquatic and occur in all manner of inland waters. To some extent the presence of odonates may be taken as an indicator of ecosystem quality. Local faunal composition may be strongly affected by any change in water flow, turbidity, etc., or in aquatic or waterside vegetation. The greatest numbers of species are found at sites which offer a wide variety of microhabitats (CORBET 1962, 1999; HECKMAN 2006; KIAUTA & TYAGI 2007; SURHONE et al. 2010).

The fauna of Iranian Odonata was studied rather well (SCHMIDT 1954; BLOM 1982; LOHMANN 1990, 1992; HEIDARI & DUMONT 2002; KALKMAN et al. 2004; MAJIDI-SHILSAR et al. 1998; SAKENIN et al. 2008, 2011; EBRAHIMI et al. 2009; GHAHARI et al. 2009). In this paper, the fauna of Odonata from West Azarbaijan province (located in North West of Iran, bordering with Turkey, Iraq and Armenia, and the provinces of East Azarbaijan, Zanjan and Kurdistan) is dealt with. West Azarbaijan province covers an area of 43,660 km². The climate of the province is largely influenced by the rainy winds of the Atlantic Ocean and Mediterranean. According to existing meteorological data, local temperatures vary within the province. The highest temperature reaches 34 °C in July, and the lowest temperature is -16°C in January. West Azerbaijan province encompasses vast and fertile plains, high mountains, rivers with high volume of water, vineyards, orchards, luxuriant forest and rangelands, mountain outskirt with wonderful flora, magnificent wildlife and beautiful shores around the lake with different recreational facilities, which all together form one of the most beautiful and spectacular region in Iran.

**Materials and Methods**

The specimens for this research were collected from different habitats (especially close to freshwater bodies, mainly along canals, pools, streams, ponds and small seasonal rivers) of West Azarbaijan province (northwestern Iran). The adults of Odonata were collected with long-handed aerial net with a net opening of at least 17 inches. The collected specimens were put in alcohol 75% or pinned and determined according to DUMONT (1991), BROOKS (1997), GARRISON et al. (2006), DIJKSTRA & LEWINGTON (2006) and KALKMAN (2006).
**Results**

In this paper which deals with the faunistic survey of Odonata from West Azarbaijan province, totally 25 species from 19 genera and 8 families were collected from various localities. The list of collected species with the altitudes of sampled regions is given below.

**Order Odonata FABRICIUS 1792**

**Family Aeshnidae RAMBUR 1842**

**Genus Aeshna FABRICIUS 1775**

*Aeshna serrata* HAGEN 1856  
*Material examined*: West Azarbaijan province: Khoy (1162 m), 1♀, August 2008.

**Genus Anaciaeschna SELYS 1878**

*Anaciaeschna isoceles* (MÜLLER 1767)  

**Genus Anax LEACH 1815**

*Anax parthenope* (SELYS 1839)  
*Material examined*: West Azarbaijan province: Salmas (1325 m), 1♀, October 2007.

**Genus Caliaeschna SELYS 1883**

*Caliaeschna microstigma* (SCHNEIDER 1845)  
*Material examined*: West Azarbaijan province: Ourmieh (1366 m), 1♀, July 2006.

**Family Calopterygidae SELYS 1850**

**Genus Calopteryx LEACH 1815**

*Calopteryx hyalina* MARTIN 1909  
*Material examined*: West Azarbaijan province: Bookan (1374 m), 2♂♂, 1♀, June 2008.

**Family Coenagrionidae KIRBY 1890**

**Genus Enallagma CHARPENTIER 1840**

*Enallagma cyathigerum* CHARPENTIER 1840  

**Genus Ischnura CHARPENTIER 1840**

*Ischnura elegans ebneri* SCHMIDT 1838  
Genus *Pyrrhosoma* CHARPENTIER 1840

*Pyrrhosoma nymphula* (SULZER 1776)
Material examined: West Azarbaijan province: Myandoab (1338 m), 1♀, April 2007.

Family Cordulegastridae CALVERT 1893

Genus *Cordulegaster* LEACH 1815

*Cordulegaster picta* SÉLYS 1854
Material examined: West Azarbayjan province: Khoi (1143 m), 1 specimen, May 2008.

Genus Cordulidae SÉLYS 1850

Genus *Cordulia* LEACH 1815

*Cordulia aenea* (LINNAEUS 1758)
Material examined: West Azarbayjan province: Makoo (1286 m), 1 specimen, September 2009.

Genus Sonjagaster LOHMANN 1992

*Sonjagaster nobilis* (MORTON 1916)

Family Euphaeidae SÉLYS 1853

Genus Epallage CHARPENTIER 1840

*Epallage fatime* (CHARPENTIER 1840)
Material examined: West Azarbaijan province: Ourmieh (1444 m), 1♀, August 2007.

Family Gomphidae RAMBUR 1842

Genus Gomphus LEACH 1815

*Gomphus davidi* SÉLYS 1887
Material examined: West Azarbayjan province: Khoi (1143 m), 1 specimen, May 2008.

Genus Onychogomphus SELYS 1854

*Onychogomphus lefebvrei* (RAMBUR 1842)
Family L i b e l l u l i d a e  L E A C H 1815

Genus C r o c o t h e m i s  B R A U E R 1868

**Crocothemis servilia** (D R U R Y 1773)
Material examined: West Azarbaijan province: Khoy (1162 m), 1♀, August 2008.

Genus L i b e l l u l a  L I N N A E U S 1758

**Libellula pontica** S E L Y S 1887
Material examined: West Azarbaijan province: Bookan (1388 m), 1♂, 2♀♀, June 2008.

Genus O r t h e t r u m  N E W M A N 1833

**Orthetrum brunneum** (F O N S C O L O M B E 1837)
Material examined: West Azarbaijan province: Seroo (1629 m), 1♂, May 2008.

**Orthetrum chrysostigma** (B U R M E I S T E R 1839)
Material examined: West Azarbaijan province: Makoo (1647 m), 1♂, 2♀♀, September 2008. Myandoab (1344 m), 1♀, April 2007.

**Orthetrum sabina** (D R U R Y 1770)

**Orthetrum taeniolatum** (S C H N E I D E R 1845)
Material examined: West Azarbaijan province: Mahabad (1352 m), 1♂, 1♀, June 2007.

Genus S y m p e t r u m  N E W M A N 1833

**Sympetrum fonscolombii** (S E L Y S 1840)
Material examined: West Azarbaijan province: Takab (1819 m), 1♂, September 2006.

**Sympetrum pedemontanum** (M Ü L L E R 1766)
Material examined: West Azarbaijan province: Seroo (1635 m), 1♂, 1♀, May 2008.

**Sympetrum sanguineum** (M Ü L L E R 1764)
Material examined: West Azarbaijan province: Makoo (1626 m), 1♂, September 2008.

Genus T r i t h e m i s  B R A U E R 1868

**Trithemis festiva** (R A M B U R 1842)
Material examined: West Azarbaijan province: Piranshahr (1457 m), 1♂, July 2008.
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