

Dragonflies of Manglawar Swat Khyber Pakhtoonkhwa Pakistan

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Abstract:

Current study was conducted to explore the dragonflies of Manglawar Swat. This study was conducted in the period from August to December 2013. The collection was made in the timing of 10 AM to 4 PM. In current study 11 species in 5 genera were identified belonging to family libellulidae. These species were crocothemis erythraea, crocothemis servilia, libellula fulva, trithemis aurora, trithemis festiva, trithemis kirbyi, trithemis pallidinervis, acisoma panorpoides, orthetrum chrysis, orthetrum Sabina and orthetrum taeniolum.

Key words: Odonata, Dragon flies, Manglawar, Swat.

Introduction

The insect order Odonata is divided into three suborders - the more delicate weakly flying damselflies (Zygoptera), the more robust dragonflies (Anisoptera) and a relict group of primitive dragonflies (Anisozygoptera). However, the odonatologists of the recent world commonly use the term “dragonfly” for the

members of all the three suborders. According to Silsby, 2001, eight super families, 29 families and some 58 sub-families of dragonflies for approximately 600 genera and 6000 named species have so far been described all over the world (Mitra 2006).

With 5,680 extant species, dragonflies are a relatively small order of insects. Their size and colour and their diurnal and often conspicuous behaviour make them a popular group for both professional and amateur entomologists (Kalkman et al. 2008).

Dragonflies are among the most ancient of winged insects, dating back well into the Permian (Grimaldi and Engel 2005).

Dragonflies have been considered as indicators for the ecosystem health of freshwater wetlands. For the useful functioning of dragonflies as indicators, it is, however, very important to identify species compositions in specific habitats (Suhling et al. 2006).

Odonata, an order of flying insects, includes dragonflies and damselflies. They are medium to large sized insects and are amongst most ancient flying insects (Rehen 2001). Their immatures are aquatic and can be found in flowing as well as in stagnant water bodies. Some species are narrow in their needs but others are generalists and can reside in almost all sort of water, whether acidic, alkaline, brackish or saline. Few prefer to live in running water, however, others prefer still water, marshes and bogs (Zia 2010).

The Odonata fauna of Pakistan has been less explored than neighboring countries. During 1972, 46 species and subspecies belonging to 24 genera of 6 subfamilies of anisoptrous dragonflies were collected and identified from various localities of Pakistan [Yousuf, M. 1972. Ph.D. Thesis, Dept. Entomol., W. P. A. U. Lyallpur, Pakistan].

Only eight species representing the Family Aeshnidae were reported from Pakistan and those were *Aeshna juncea*

(Linnaeus, 1758), *Anax immaculifrons* Rambur, 1842, *Anax indicus* Lieftinck, 1942, *Anax nigrofasciatus* Fraser, 1935, *Anax parthenope* (Selys, 1839), *Cephalaeschna masoni* (Morton, 1909), *Gynacanthaeshna sikkima*(Karsch, 1891) and *Hemianax ephippiger* (Burmeister 1839; Chaudhry and Aslam 2010; Chaudhry et al. 2010; Khaliq and Maula 1999)

Taxonomic studies on Odonata naiads are badly ignored in Pakistan. Past studies are mainly focused on adults of Odonata and work done on their naiads is negligible, yet only few records are available up till now (Din 2012).

Regarding the previous status about the studies of the Odonata, current study was concentrated to explore the dragonfly fauna of Manglawar Swat Khyber Pakhtoonkhwa Pakistan.

Methods and Materials

Current study was conducted in Manglawar valley district Swat Khyber Pakhtoonkhwa Pakistan in the period from August to December 2013. The collection was made in the timing of 10 AM to 4 PM. Collected specimen were kept in glass with 95% alcohol, then were shifted to 70% alcohol with a few drops of glycerin added to it to avoid desiccation. Collected specimens were identified under stereoscope by following different taxonomic and systematic keys.

Results and Discussion

In current study 11 species in 5 genera were identified belonging to family libellulidae. These species were *crocothemis erythraea*, *crocothemis servilia*, *libellula fulva*, *trithemis aurora*, *trithemis festiva*, *trithemis kirbyi*, *trithemis pallidinervis*, *acisoma panorpoides*, *orthetrum chrysis*, *orthetrum Sabina* and *orthetrum taeniolum*. These species were collected from different habitats that were stagnant water and slow moving

water.

Order	Family	Species
Odanata	libellulidae	<i>Crocothemis erythraea</i>
Odanata	Libellulidae	<i>Crocothemis servilia</i>
Odanata	Libellulidae	<i>Libellula fulva</i>
Odanata	Libellulidae	<i>Trithemis aurora</i>
Odanata	Libellulidae	<i>Trithemis festiva</i>
Odanata	Libellulidae	<i>Trithemis kirbyi</i>
Odanata	Libellulidae	<i>Trithemis pallidinervis</i>
Odanata	Libellulidae	<i>Acisoma panorpoides</i>
Odanata	Libellulidae	<i>Orthetrum chrysis</i>
Odanata	Libellulidae	<i>Orthetrum Sabina</i>
Odanata	Libellulidae	<i>Orthetrum taeniolatum</i>

Table 1.1: table showing the specie collected during study

According to (Din et al. 2013) a total number of 152 specimens comprising 34 species in 21 genera and six families were collected from Potohar Plateau, Punjab, Pakistan. Out of total explored species, *Crocothemis erythraea* and *Pantala flavescens* were found dominant and abundant in the plateau thereby representing maximum number of specimens and found in variable habitats ranging from slow moving water to stagnant water of ponds.

Collection of species from different habitats

During this study the species were collected from different habitats. The habitat of species are shown in table 1.2.

Species	Habitat of collection
<i>Crocothemis erythraea</i>	Collected from variable habitats i.e. standing waters, ponds
<i>Crocothemis servilia</i>	Collected from stagnant water, slow moving to fast water
<i>Libellula fulva</i>	Collected from slow moving water
<i>Trithemis aurora</i>	Collected from slow moving streams

<i>Trithemis festiva</i>	Collected from stagnant rainy waters
<i>Trithemis kirbyi</i>	Collected from shallow banks of water reservoir
<i>Trithemis pallidinervis</i>	Collected from shallow banks of water reservoir
<i>Acisoma panorpoides</i>	Collected from rainy water ponds and stagnant water
<i>Orthetrum chrysis</i>	Collected from shores of rivers
<i>Orthetrum Sabina</i>	Collected from shores of rivers
<i>Orthetrum taeniolatum</i>	Collected from slow moving waters

Table 1.2: Habitat of species

During the study the species were collected from different habitats. Similar results are reported by (Din et al. 2012) in which they had collected the species from different aquatic habitats that include almost all sort of waters including static, flowing, acidic, alkaline, brackish or saline.

Studies on taxonomic distribution of Odonata naiads in Pakistan have rarely been carried out in the past. Yet, lot of faunistic studies have been conducted recording species diversity of adult odonates. It is also important to document that being flying insects, odonates are known to fly long distances in search of food and ideal ecological conditions especially for temperature and humidity preferences. Reporting species diversity for Odonata of any area based on the collection of adults, arises doubts on their endemism (Zia et al. 2011).

Conclusion

It was concluded from the current study that there is no satisfactory work done on family Odonata in Pakistan. Further study is required in order to explore the dragon flies of Pakistan.

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