

## NEW ODONATA RECORDS FROM HIMACHAL PRADESH, INDIA

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**Abstract** – The records are presented of 19 spp., all new to the fauna of the state. The occurrence of Platystictidae (*Drepanosticta*, *Protosticta*) and that of the genera *Aeshna*, *Gynacanthaeschna*, *Megalogomphus* and *Zygonyx* in Himachal Pradesh is documented for the first time.

### Introduction

In the present note, 19 newly recorded species from Himachal Pradesh are listed based on material collected by the first author (2006-07), except four species documented by M. Chandra & T.R. Sharma (1969), H.P. Agrawal (1973) and I. Malhotra (1990), during various surveys of the Zoological Survey of India.

After FRASER (1933, 1934, 1936), the Odonata of Himachal Pradesh were studied by PRASAD (1976), KUMAR & PRASAD (1981) and KUMAR (1982, 2005). In his 2005 publication, the latter author listed 88 species, whereas BABU & MEHTA (2009) and R. Babu (2010, submitted) provided the records for 11 additional zygopteran species.

### List of species

Listing follows the system of DAVIES & TOBIN (1984, 1985) and TSUDA (2000)

#### Platystictidae

- *Drepanosticta carmichaeli* (Laidlaw): 2♂, Renuka Lake, Sirmaur distr., 9/10-X-2006.  
Distribution: India (Himachal Pradesh, Ut-

tarakhand, West Bengal), Bhutan, Nepal.

- *Protosticta davenporti* Fraser: 2♂, 2♀, Khajjiar Lake, Kala Top – Khajjiar Wildlife Sanctuary, Chamba distr., 26-IX-2007.  
Distribution: India (Himachal Pradesh, Kerala, Tamil Nadu, Uttarakhand). This species is endemic to India.

#### Lestidae

- *Lestes dorothea* Fraser: 3♂, 2♀, Tara Devi, Solan distr., 17-VII-1969.  
Distribution: India (Himachal Pradesh, Arunachal Pradesh, Assam, Karnataka, Meghalaya, Mizoram), Bhutan, Malaysia, Nepal, Thailand.
- *L. praemorsus decipiens* (Kirby): 23♂, 10♀ (4 pairs in copula), Fish farm HPKVK, Palampur, Kangra distr., 14/16-IV-2006; – 5♂, 1♀ (1 pair in copula), Water tank, Tihra, Sujapur, Hamirpur distr., 19-IV-2006.  
Distribution: India (Himachal Pradesh, Andaman & Nicobar Islands, Arunachal Pradesh, Assam, Karnataka, Kerala, Madhya Pradesh, Tamil Nadu, Uttarakhand, West Bengal), China, Indonesia, Myanmar, Nepal, Singapore, Sri Lanka, Thailand, Vietnam.

#### Aeshnidae

- *Aeshna m. mixta* Latreille: 1♂, Dalhousie, Chamba distr., V-1990.  
Distribution: India (Himachal Pradesh, Jammu & Kashmir), Iran, Iraq, Syria, Algeria, Egypt, Morocco, Tunisia, Russia, Tur-

key, European countries.

- *Cephalaeschna masoni* (Martin): 1 ♀, Dhama-lari, Churdhar WLS, Shimla distr., 12-IX-2007; – 1 ♀, Chogal, Churdhar WLS, Shimla distr., 12-IX-2007.  
Distribution: India (Himachal Pradesh, Arunachal Pradesh, West Bengal), Nepal.
- *C. viridifrons* (Fraser): 1 ♂, Churdhar WLS, Shimla distr., 12-IX-2007.  
Distribution: India (Himachal Pradesh, Arunachal Pradesh, Mizoram, Sikkim, Uttarakhand, West Bengal), Myanmar, Nepal.
- *Gynacanthaeschna sikkima* (Karsch): 1 ♂, Chogal, Churdhar WLS, Shimla distr., 12-IX-2007.  
Distribution: India (Himachal Pradesh, Meghalaya, Sikkim, Uttarakhand, West Bengal), Bangladesh, Nepal.

#### G o m p h i d a e

- *Megalogomphus smithi* (Selys): 1 ♂, Jalal riv-erside, Dadahu, Sirmaur distr., 10-X-2006.  
Distribution: India (Himachal Pradesh, As-sam, Sikkim, West Bengal), Bangladesh, China.
- *Onychogomphus biforceps* Selys: 1 ♂, Samsh-erpur, Paonta, Sirmaur distr., 19-IX-1973.  
Distribution: India (Himachal Pradesh, Arunachal Pradesh, Uttarkhand, West Ben-gal), Bhutan, Myanmar, Nepal, Vietnam.
- *O. duaricus* Fraser: 1 ♂, Naini Tikka, Sir-maur distr., 20-VII-1972; – 2 ♂, 1 ♀, Binwa River, Baijnath, Kangra distr., 30-IX-2007; – 1 ♂, Pandoh, Mandi distr., 6-X-2007.  
Distribution: India (Himachal Pradesh, Meghalaya, Uttarakhand, West Bengal), Bangladesh, China, Laos, Myanmar, Mal-aysia, Nepal.
- *O. risi* (Fraser): 1 ♂, Aswini river, Sadhupool, Solan distr., 12-X-2006.  
Distribution: India (Himachal Pradesh, Arunachal Pradesh, Uttarakhand, West Bengal), Laos, Myanmar, Nepal.

#### C o r d u l e g a s t e r i d a e

- *Anotogaster nipalensis* (Selys): 4 ♂, Badal, Rampur, Shimla distr., 18-X-2006; – 1 ♂, Hill stream, Aswini river, Sadhupool, Solan distr., 12-X-2006.  
Distribution: India (Himachal Pradesh, Sik-kim, Uttarakhand, West Bengal), Bhutan,

Bangladesh, Nepal.

- *Neallogaster latifrons* (Selys): 1 ♂, Churdhar WLS, Shimla distr., 12-IX-2007.  
Distribution: India (Himachal Pradesh, Sik-kim, West Bengal), Bangladesh, Nepal.

#### L i b e l l u l i d a e

- *Sympetrum fonscolombii* (Selys): 1 ♂, 1 ♀, (in copula), Fish farm, HPKVK, Palampur, Kangra distr., 14-IV-2006; – 1 ♂, same lo-cality, 29-IX-2007.  
Distribution: India (Himachal Pradesh, Jammu & Kashmir, Kerala, Tamil Nadu, Uttarakhand), Nepal, Afghanistan, Sri Lanka, China, Japan, Central European countries, Russia, Israel, Oman, Iran, Iraq, Saudi Arabia, Yemen, African countries.
- *S. haematoneura* Fraser: 1 ♂, Khajjiar Lake, Kala Top – Khajjiar Wildlife Sanctuary, Chamba distr., 26-IX-2007.  
Distribution: India (Himachal Pradesh, Jammu & Kashmir, Uttarakhand), Nepal.
- *S. meridionale* (Selys): 1 ♂, 1 ♀, Dalhousie, Chamba distr., V-1990.  
Distribution: India (Himachal Pradesh, Jammu & Kashmir), Afghanistan, China, Iran, Algeria, Morocco, Tunisia, Russia, Turkey, European countries.
- *S. orientale* (Selys): 1 ♂, Khajjiar Lake, Kala Top – Khajjiar Wildlife Sanctuary, Chamba distr., 26-IX-2007.  
Distribution: India (Himachal Pradesh, Arunachal Pradesh, Meghalaya), China, Nepal.
- *Zygonyx torridus isis* Fraser: 1 ♂, 1 ♀ (in cop-ula), Badan Pump House, Renuka, Sirmaur distr., 9-X-2006.  
Distribution: India (Himachal Pradesh, Karnataka, Orissa, Punjab, Uttarakhand), Pakistan.

#### Discussion

Out of the 19 species reported here, *Lestes dor-othea* was known only from the eastern and southern states of India, whereas the known Indian distribution of *Cephalaeschna masoni*, *Megalogomphus smithi*, *Neallogaster latifrons* and *Sympetrum orientale* was documented only from the northeastern states. These five species are recorded from northern India for the first time.

The Platystictidae (*Drepanosticta*, *Protosticta*) and the genera *Aeshna*, *Gynacanthaeschna*, *Megalogomphus* and *Zygonyx* are for the first time recorded from the state of Himachal Pradesh.

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**References** – BABU, R. & H.S. MEHTA, 2009,

*Conserv. Area Ser. zool. Surv. India* 41: 21-28; – DAVIES, D.A.L. & P. TOBIN, 1984, *The dragonflies of the world*, vol. 1: *Zygoptera, Anisozygoptera*, SIO, Utrecht; – 1985, *ditto*, vol. 2: *Anisozygoptera*; – FRASER, F.C., 1933, 1934, 1936, *Fauna of British India, including Ceylon and Burma: Odonata*, vols 1-3, Taylor & Francis, London; – KUMAR, A., 1982, *Indian J. Phys. nat. Sci. (A)* 2: 55-59; – 2005, *Fauna of Western Himalaya, 2: Himachal Pradesh*, pp. 75-98, ZSI, Calcutta; – KUMAR, A. & M. PRASAD, 1981, *Rec. zool. Surv. India Occ. Pap.* 20: 1-118; – PRASAD, M., 1976, *Rec. zool. Surv. India* 71: 95-119; – TSUDA, S., 2000, *A distributional list of World Odonata*, Tsuda, Osaka.

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