

**DRAGONFLY FAUNA (INSECTA : ODONATA) IN  
GREAT HIMALAYAN NATIONAL PARK, WESTERN HIMALAYAS**

**V.P. UNIYAL, A. MITRA\* AND P.K. MATHUR**

*Wildlife Institute of India,  
Post Box # 18, Chandrabani, Dehra Dun - 248 001, India*

**Reprinted from :**

**ANNALS OF FORESTRY  
DEHRA DUN (INDIA)**

**Vol. 8 No. 1 June 2000**

## DRAGONFLY FAUNA (INSECTA : ODONATA) IN GREAT HIMALAYAN NATIONAL PARK, WESTERN HIMALAYA

V.P. UNIYAL, A. MITRA\* AND P.K. MATHUR

Wildlife Institute of India,  
Post Box # 18, Chandrabani, Dehra Dun - 248 001, India.

### ABSTRACT

Six species representing two families of Order Odonata namely Aeshnidae and Libellulidae were recorded from the valley and at different altitudinal zones (1500 to 2500 m) of Great Himalayan National Park, Himachal Pradesh.

**Key words :** Odonata, Altitudinal zone, Great Himalayan National Park.

### Introduction

Insect survey was undertaken in Great Himalayan National Park (GHNP), Himachal Pradesh to study the insect diversity at different altitudinal zones of the park. The Entomofauna of this park was studied by Uniyal and Mehra (1996); Uniyal and Singh (1996); Uniyal and Kumar (1997) and Uniyal and Mathur (1998). In the present paper, the dragonfly taxa of the region is described of which *Anax nigrofaciatus nigrolineatus* Fraser is a new record for the Himachal Pradesh as well.

### The study site : GHNP-CA

**Location, Constitution and area :** The study of Odonata was undertaken in the Great Himalayan National Park Conservation Area (GHNP-CA). The GHNP-CA represents the Biogeographic zone-2A North-West

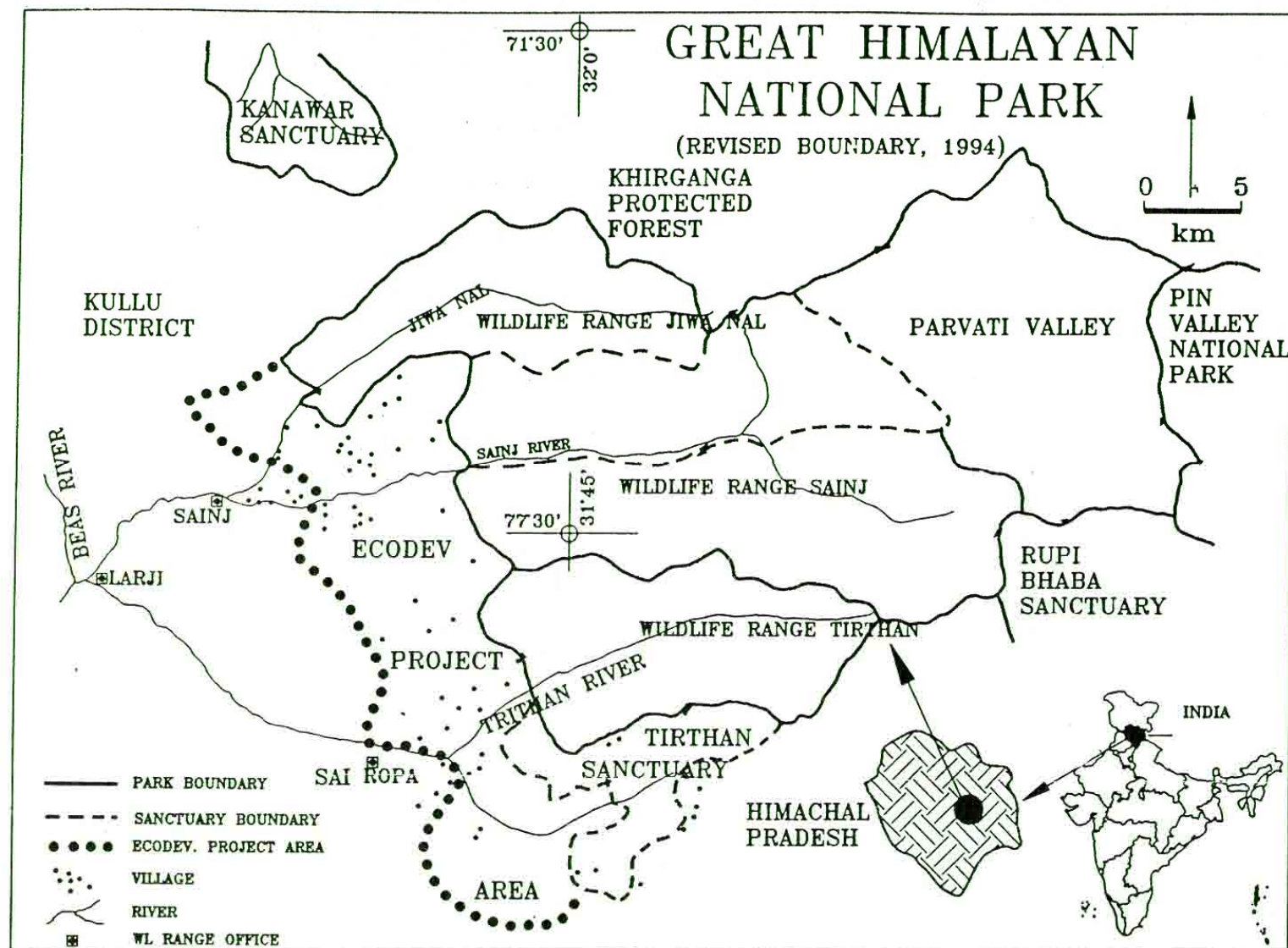
Himalayas (Rodgers and Panwar, 1988). The area is located between Lat. 31°33'00" and 31°56'56" North and Long. 77°17'15" East in the Kullu District of Himachal Pradesh (Fig. 1) covering a total area of 1,171 km<sup>2</sup> and comprising a NP (765 km<sup>2</sup>). Sainj WLS (90 km<sup>2</sup>), Tirthan WLS (61 km<sup>2</sup>) and an Ecodevelopment Project Area (250 km<sup>2</sup>). The study area is characterised by high ridges, deep gorges, precipitous cliffs, rocky craggy glaciers, narrow valleys and provides catchment for Tirthan, Sainj, Jiwa and Parvati rivers which together forms the upper catchment of the major river named Beas. Much of the eastern part of the GHNP is perpetually snow covered or under ice. The area exhibits an altitudinal variation from 1,300 m to 6,110 m.

**Climatic conditions in GHNP-CA :** The micro-climate of the area is the sum of the meteorological and topographical

---

\*D/6, Govt. Quarters, 10 M.B. Road, Calcutta - 700083, India.





conditions that determine the average state of the surroundings. The precipitation in GHNP is moderate throughout the year and abundant during the monsoon months (July to September). The winter months (October to March) receive precipitation in the form of snow generally upto the elevation of 2,000 m, but during present study snowfall at lower elevations (upto 1200 m altitude) was also recorded twice in the month of December, 1997 and January, 1998. The mean annual rainfall in the area was 1,300 mm and temperature ranged from 5°C to 30°C.

**Vegetation in GHNP:** The forested area of GHNP is only 32.53% because of preponderance of high altitude meadows beyond tree lines and rocky and snow bound areas (Negi, 1996). The forest areas covered by dense Himalayan Moist Temperate forests are characterised by both conifers and broadleaved species.

#### Annotated list of Dragonflies of GHNP

During the present study, only six species of dragonflies have been recorded from the area at an altitude of 1500-2500 m. The nomenclature adopted is that of Prasad and Varshney (1995).

#### Discussion

Among the six species of dragonflies, that have been recorded from Great Himalayan National Park, Himachal Pradesh of Western Himalaya during the

	Altitude (m)	
	Present record	Kumar and Prasad (1981)
Family : Aeshnidae		
1. <i>Anax guttatus</i> (Burmeister)	1500-2500	500 - 2000
2. <i>A. nigrofasciatus nigrolineatus</i> Fraser	"	1500 - 2000
Family : Libellulidae		
3. <i>Orthetrum t. triangulare</i> (Selys)	"	300 - 2300
4. <i>O. japonicum internum</i> MacLachlan	"	300 - 3000
5. <i>Sympetrum commixtum</i> (Selys)	"	300 - 2300
6. <i>Pantala flavescens</i> (Fabricius)	"	300 - 2300

present study, *Anax nigrofasciatus nigrolineatus* Fraser is recorded for the first time from Himachal Pradesh. *Anax guttatus* (Burmeister) and *A. nigrofasciatus nigrolineatus* Fraser have been observed upto 2500m in contrast to the earlier observations (2000m) of Kumar and Prasad (1981). *Orthetrum t. triangulare* (Selys) and *Sympetrum commixtum* (Selys) have also been found upto 2500 m in GHNP while Kumar and Prasad (1981) recorded them upto 2300 m. *Pantala flavescens* (Fabricius) and *Orthetrum japonicum internum* MacLachlan, however, were found well within the limit of the previous observations (300-3000m) of Kumar and Prasad (1981).

### Acknowledgements

The authors are thankful to Mr. S.K. Mukherjee, Director, Wildlife Institute of India, Dehra Dun and Mr. Sanjeeva Pandey, Director, Great Himalayan National Park, for providing necessary facilities and permission to carry out this study.

### References

- Kumar, A. and Prasad, M. 1981. Field Ecology, Zoogeography and Taxonomy of the Odonata of Western Himalayan, India. *Rec. Zool. Surv. India, Occ. Paper*, **20** : 1-118.
- Negi, A.S. 1996. Assessment of Issues related to soil erosion, landslides and to provide technical support to park management. *FREE-GHNP Project Report*, Wildlife Institute of India, Dehra Dun. 101 pp.
- Prasad, M. and Varshney, R.K. 1995. A check-list of the Odonata of India including data on larval studies. *Oriental Insects*, **29** : 385-428.
- Rodgers, W.A. and Panwar, H.S. 1988. Planning a Wildlife Protected Area Network in India. Vol. I & II. *WII Field Document No.7*. Wildlife Institute of India, Dehra Dun.
- Uniyal, V.P. and Mehra, B.S. 1996. Preliminary observation on the diversity of butterflies (Lepidoptera : Insecta) in high altitude grazing pastures in Great Himalayan National Park. *Zoos Print*, **XII** (9) : 7-8.
- Uniyal, V.P. and Singh, S.K. 1996. Preliminary study of the ecological relationship between high altitude flowering plants and insects in the Tirthan valley of the Great Himalayan National Park, Himachal Pradesh. *Indian Bee Journal*, **58** (3) : 137-139.
- Uniyal, V.P. and Kumar, N. 1997. Food Preference of the Yellow Coster Butterfly *Pareba veata* (Nymphalidae : Lepidoptera) in Great Himalayan National Park, Himachal Pradesh, *Zoos Print*, **XII** (5) : 7-8.
- Uniyal, V.P. and Mathur, P.K. 1998. Diversity of Butterflies in the Great Himalayan National Park, Western Himalaya. *Indian Journal of Forestry*, **21** (2) : 150-155.
-