

## (III)

**YELLOW SWALLOWTAIL BUTTERFLY *PAPILO MACHANON*  
(LEPIDOPTERA : PAPILIONIDAE) FROM  
GREAT HIMALAYAN NATIONAL PARK, HIMACHAL PRADESH**

The Himalayan butterflies fall into two major ecological categories, one is the forest species which is generally confined to more or less densely wooded mountain slopes and another, the hypsobiont species, which are true high altitude butterflies. They never found below the timberline. For the first time the yellow swallowtail butterfly *Papilo machanon* was recorded from the meadows named as Dhel (3,820m) in Khamba Reserve Forest in Sainj valley of GHNP.

The Park is situated between Lat. 31°38' 16" and 31° 56'41" North and Long. 77° 20' to 77° 52'11" East in Kullu district of Himachal Pradesh. The park consists of the catchment of Tirthan, Sainj, Jiwa and Parvati river flowing into the Beas river. The park is situated at an altitude ranging from 1,300 to 6,110m above msl. Much of the eastern part of the park is perpetually under snow.

*Papilo machanon* Linnaeus (Yellow swallowtail) inhabits alpine meadows and visits low-growing flowers. It is black and yellow butterfly with tail, forewing above basally yellow discal band of oblong patches. Upper hind wing with red spot on inner edge. *P. machaon* is a Palaearctic species with series of sub species in the Himalaya, *P. machaon asiatica* Men., recorded from 4,200m near Mount Everest region. *P.*

*machaon sikkimensis* (More) recorded from Sikkim Himalaya from about 4,800m but never found below 3,000m so far (Haribal, 1992), *P. machaon ladakensis* Moore with the shorter tail recorded from 3,900m elevation and *P. machaon punjabensis* Elimer were recorded from Northwest Kumaon Himalaya. *P. machaon hemihippocrates* Varity is very similar to *punjabensis* and is reported from Nepal, and *P. machaon annae* Gistel with relatively broad black bands and with a red spot in tornus is reported from Tibet and East Himalaya (Mani, 1986). It also found in fen and meadowland in Europe, across temperate Asia to Japan and also occur in Subarctic and Arctic region of Canada and the USA (Carter, 1992). Once it was found throughout the East Anglian fens, *P. machanon* is now confined to marshes around the Norfolk Broads. Until the early 1950s a small isolated colony of swallowtail survived at Wicken fen in Cambridgeshire, but after its extinction there, repeated attempts to re-introduce the butterfly failed (Hall, 1981). The vegetation in the study areas of alpine meadows was recorded as: *Fritillaria roylei* in full bloom with its yellowish-green to brownish-purple bell shaped flowers attracting swallowtail. Five different species of *Primula* were also recorded within this habitat which include *P. glomerata*, *P. denticulata*, *P. reptans*, *P. alrodentata* and *P. macrophylla*. A tufted perennial growing

with many leafy stems each with few or solitary pale blue funnel shaped flower of *Gentiana cachemirica* also attract the hypsobiont butterflies. *Anemon rupicola* with white flowers and small erect or spreading yellow buttercup of *Ranunculus*

*hrtellus* were also observed in this area. Some small flowering plants of this region were *Smilax ferox*, *Trillidium govanianum*, *Polygonatum cirrhifolium*, *Podophyllum hexandrum*, *caltha palustris*, *Morina longifolia* and *Corydalis govaniana*.

#### Acknowledgements

Authors are thankful to Shri S.K. Mukherjee, Director, Wildlife Institute of India and Shri Nagesh Kumar Guleria, Director, Great Himalayan National Park for permission to undertake this study.

#### References

- Carter, D. 1992. *Butterflies and Moths*, Dorling Kindersley Ltd London. 304 pp.  
Hall, M.L. 1981. *Butterfly Research in Institute of Terrestrial Ecology*, Monks Wood Experimental Station, Huntingdon. 28 pp.  
Haribal, M. 1992. *The Butterflies of Sikkim Himalaya and Their Natural History*, Sikkim Natural Society, Gangtok. p. 21.  
Mani, M.S. 1986. *Butterflies of the Himalaya*, Oxford & IBH, New Delhi, 181 pp.

Wildlife Institute of India,  
Chandrabani,  
Dehra Dun - 175 123 (India).

V.P. Uniyal