

*Rec. zool. Surv. India*, **109**(Part-2) : 55-59, 2009

## TAXONOMIC NOTES ON THE *SATYRIUM SASSANIDES* (KOLLAR) (LYCAENIDAE : THECLINAE : EUMAENINI) FROM NORTH-WEST INDIA

AVTAR KAUR SIDHU

*High Altitude Regional Centre, Zoological Survey of India, Saproon, Solan-173 211*

### INTRODUCTION

*Satyrium sassanides* (Kollar) has been misidentified as a species under *Strymon* Hubner by most workers viz., Evans (1931), Wynter-Blyth (1957), Cantlie (1963) and Varshney (1997). As per the diagnosis of *Strymon* by Clench (1967), the male genitalia possess single acuminate cornutus in the aedeagus and small basally directed teeth on the tip of the valvae whereas as per diagnosis of genus *Satyrium* Scudder, the male genitalia possess two terminal cornuti and a ventral keel (Clench, 1978). Though the earlier workers had placed the species under *Strymon*, Bridges (1988) had rightly placed it separately under *Satyrium*. The male and female genitalia of *Satyrium sassanides* are being studied for the first time. During the course of present study, when the male genitalia of *Satyrium sassanides* examined, it was observed that the ventral keel was impregnated with two terminal cornuti in the aedeagus and not just one cornutus. This clearly substantiates the placement of the above mentioned species under *Satyrium* by Bridges (1988) and not under *Strymon*.

### OBSERVATIONS

Genus *Satyrium* Scudder

1876. Scudder, *Bull. Buffalo Soc. Nat. Sci.*, **3** : 106; Clench, 1961, *How to know butts. In Ehrlich and Ehrlich* : 102; Clench, 1978, *J. Lep. Soc.*, **32**(4) : 279.
1876. *Callipsyche* Scudder, *Bull. Buffalo. Nat. Sci.*, **3** : 106.
1907. *Edwardsia* Tutt, *Nat. Hist. Brit. Butts.*, **2** : 142.
1907. *Felderia* Tutt, *Nat. Hist. Brit. Butts.*, **2** : 142.
1907. *Kollaria* Tutt, *Nat. Hist. Brit. Butts.*, **2** : 142.

1907. *Erschoffia* Tutt, *Nat. Hist. Brit. Butts.*, **2** : 142.  
 1907. *Nordmannia* Tutt, *Nat. Hist. Brit. Butts.*, **2** : 142.  
 1907. *Chattendenia* Tutt, *Nat. Hist. Brit. Butts.*, **2** : 142.  
 1911. *Thecliolia* Strand, *Ent. Rundsch.*, **27** : 162.  
 1911. *Superflua* Strand, *Ent. Rundsch.*, **27** : 162.  
 1911. *Pseudothecla* Strand, *Ent. Rundsch.*, **27** : 162.  
 1951. *Necovatia* Verity, *Rev. fr. Lep. Suppl.*, : 183.

*Type-species* : *Lycaena fulginosa* Edwards.

1861. Edwards, *Proc. Acad. Nat. Sci. Philad.* 1861 : 164.

*Generic diagnosis* : Forewing with 10 veins, hindwing tailless or with one or two tails but never a tail at 1A + 2A; male genitalia with vinculum laterally broad, abruptly becoming very slender towards saccus; saccus small, the latter prominent due to slenderness of adjacent vinculum; valvae contiguous proximally, distally abruptly divergent; aedeagus with ventral keel, impregnated with two terminal cornuti.

### ***Satyrium sassanides* (Kollar)**

*Common name* : Whiteline Hairstreak.

1849. *Thecla sassanides* Kollar, *Denkschr K. Akad. Wiss. Wien.*, **1** : 51.  
 1932. *Strymon sassanides* Evans, *Ident. Indian Butts.*, (2<sup>nd</sup> Ed.) : 248.  
 1978. *Satyrium sassanides* Clench, *J. Lep. Soc.*, **32**(4) : 280.  
 1865. *Thecla deria* Moore, *Proc. Zool. Soc. Lond.*, 1865(2) : 507.  
 1874. *Thecla mirabilis* Erschoff, *mem. Soc. Amis Sci. nat. Moscou*, **11**(2) : 7.

*Adult* : Sexes similar, frontoclypeal area dressed with dark brown and white scales; eyes sparsely hairy; labial palpi with second segment long, below clothed with white and black scales; antenna with club not clearly differentiated, nudum limited to club. Thorax dorsally dark brown, ventrally decorated with white hair; each leg with a pair of tibial spurs, tarsi spiny. Forewing costa and tornus convex, above dark brown, below pale brown, a narrow white discal band present, and the latter inwardly edged black, marginal line and marginal spots obscure. Hindwing oval, termen concave between veins Cu1a and 1A + 2A, dorsum concave between vein 3A and tornus, tailed at Cu1b, tail 3.5 mm long, black with apex white; undersurface pale brown with a narrow white discal band, the latter inwardly edged black, a linear white marginal line present, three orange crowned and inwardly black edged spots present in Cu1a, Cu1b and at tornus, marginal spots in M<sub>2</sub> and M<sub>3</sub> minute.

*Venation* : Forewing with discal cell more than half the length of the wing, veins Sc and R<sub>1</sub> approximating, veins R<sub>3</sub> and R<sub>4</sub> absent, veins R<sub>5</sub> and M<sub>1</sub> widely separated at base, vein M<sub>2</sub> closer to

vein  $M_1$  than vein  $M_3$ , discocellulars complete; hindwing discal cell less than half of the wing, vein  $M_2$  equidistant between veins  $M_1$  and  $M_3$ , discocellular veins present.

*Male genitalia* : Uncus with each lobe broad, apex rounded, pilose; brachia slender, curved at base, arms narrow, pointed; subscaphium very long, band-like; tegument large, broad; vinculum very wide proximally, suddenly becomes narrow distally to receive short saccus, the latter with rounded apex. Valva penguin-shaped, basal half oval, costa and sacculus narrow, upper half narrow, slightly curved downwards with pointed apex, pilose; juxta absent; aedeagus long, slender, narrow, suprazonal portion fairly larger than subzonal portion, slightly curved, ductus entering dorsad, coecum very short, apex with a keel, vesica with two cornuti, the latter well developed.

*Female genitalia* : Lodix small, irregular, somewhat star shaped.; genital plate absent; ductus seminalis entering at junction of ductus bursae and corpus bursae; ductus bursae well sclerotized; corpus bursae fairly large, globular, base sclerotized, a pair of triangular signae present; apophysis anterioris absent; apophysis posterioris long, narrow; papilla analis elongated, pilose.

*Wing expanse* : Half : Male : 15.0-17.0 mm.

Female : 16.0-18.0 mm.

*Material examined* : 3 exs., 16.VII.1992, Trilokinath, Lahaul and Spiti, Himachal Pradesh; 1 ex., 17.VII.1992, Tandy Bridge, Rohali, Keylong, Himachal Pradesh; 6 exs., 19.VII.1992, Purthi, Chamba, Himachal Pradesh; 2 exs, 22.VII.1992, Kellar, Chamba, Himachal Pradesh (A.K. Sidhu and H.S. Rose collections).

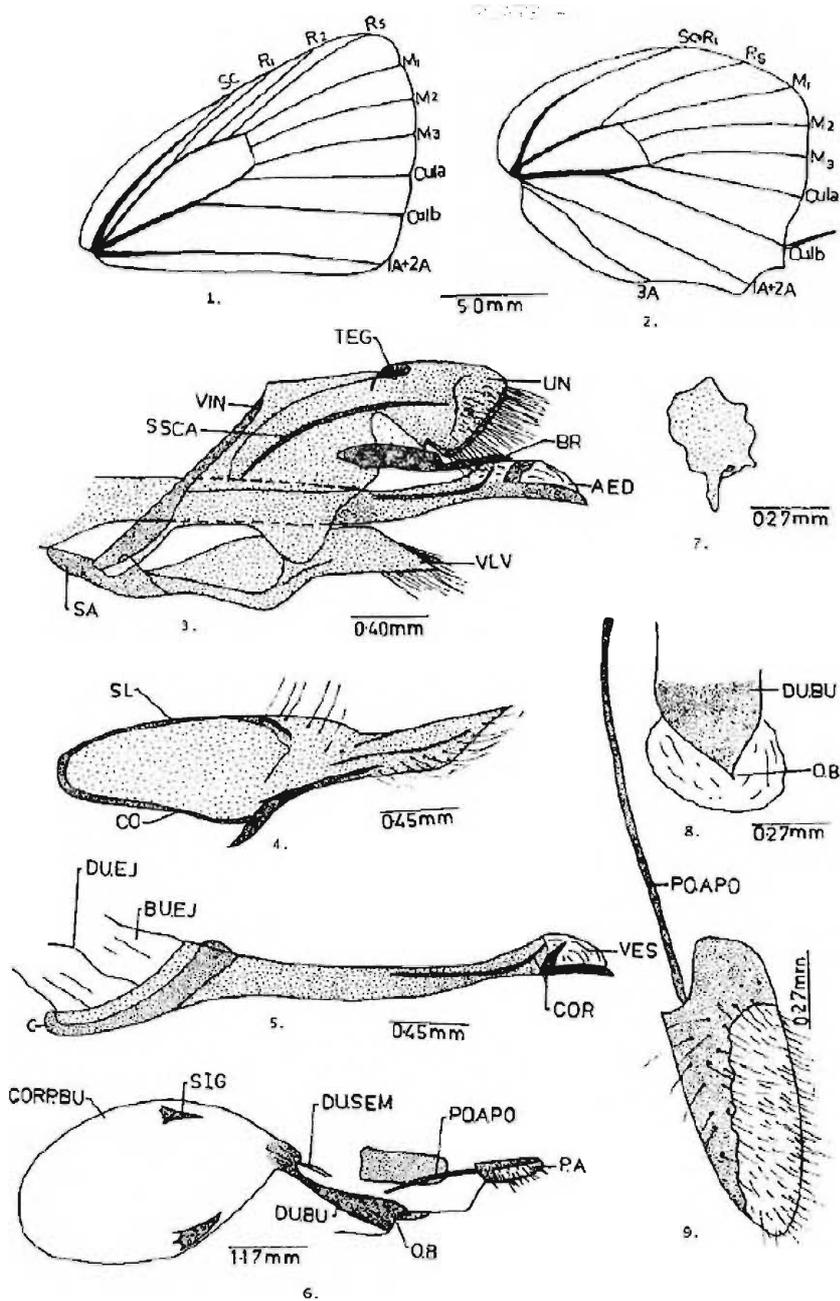
*Former distribution* : Kashmir, Ladak, Pangi, Mussoorie, Shimla hills, Chitral, Afghanistan, Balauchistan, Persia.

**Photo 1** : Male (dorsal view)

**Photo 2** : Male (ventral view)

*Satyrium sassanides* (Kollar) (Male)

## PLATE I



Explanation to figures (Plate-1) : 1. Venation of forewing; 2. Venation of hindwing; 3. Male genitalia (lateral view); 4. Valva (inner view); 5. Aedeagus (lateral view); 6. Female genitalia (lateral view); 7. Lodix; 8. Genital plate; 9. Papilla analis.

*Remarks* : The survey shows that the species is commonly available in Pangri valley from where it has earlier been reported by de Niceville (1890). The first record of the species is from localities Trilokinath and Keylong. However, the species could not be collected from localities such as Mussoorie and Shimla inspite of repeated surveys from 1992-1995 and then 2005-2006.

#### ACKNOWLEDGEMENTS

The author is thankful to Dr. Ramakrishna, Director, Zoological Survey of India and Dr. H. S. Mehta, Officer-in-Charge, High Altitude Zoology Field Station, Solan, for providing facilities and encouragement.

#### REFERENCES

- Bridges, C.A. 1988. Catalogue of Lycaenidae and Riodinidae. Privately Published, U.S.A. : 782 pp.
- Cantlie, K. 1963. The Lycaenidae portion (except the *Arhopala* group) of Brigadier Evans' the identification of Indian Butterflies 1932 (India, Pakistan, Ceylon and Burma). *Bombay Nat. Hist. Soc. Bombay* : vi + 156 pp.
- Clench, H.K. 1967. Type localities of some neotropical Lycaenidae taken by Gervase Mathew and described by W.C. Hewitson. *J. Lep. Soc.*, **21** (3) : 181-184.
- Clench, H.K. 1978. The names of certain Holarctic Hairstreak genera (Lycaenidae). *J. lep. Soc.* **32**(4) : 277-281.
- Evans, W.H. 1932. *The identification of Indian Butterflies*. Second edition revised. *Bombay nat. Hist. Soc.*, : x + 454 pp., 32 pls., 9 figs.
- Varshney, R.K. 1997. Index Rhopalocera Indica Part III. Genera of Butterflies from India and neighbouring countries (Lepidoptera : (C) Lycaenidae). *Oriental Insects*, **31** : 88-138.
- Wynter-Blyth, M.A. 1957. *Butterflies of the Indian region*. Today and Tomorrow's Printers and Publications, New Delhi : 523 pp.