

Figures 1-5 *Planaeschna* sp., Wu Kau Tang, Hong Kong. (1) Hindwing; (2) synthorax; (3) caudal segments 9-10, lateral [cerci and styles missing]; (4) abdomen segments 9-10, dorsal; (5) abdomen segments 1-10, lateral.

## *Sinthusa nasaka* (Horsfield) (Lepidoptera: Lycaenidae), a butterfly new to Hong Kong

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*Sinthusa* Moore, 1884, comprises about a dozen small species (Bascombe, 1999), distributed from India to Taiwan, including Sundaland, the Philippines and Sulawesi (Eliot, 1992). In the last decade, several new taxa in this genus, such as *S. zhejiangensis* Yoshino, 1995 and *S. menglaensis* (Wang, 1997) were discovered in Southern China, which may reflect the high diversity of the genus in this region. In Hong Kong, this genus has been only represented by a single species, *S. chandrana* (Bascombe, 1999; Lo & Hui, 2004).

In butterfly surveys conducted in Hong Kong during the summer of 2004, several female specimens of a suspected *Sinthusa* species were found (Fig. 1). The publication of the discovery has been delayed for almost two years because meaningful taxonomic comparison could not be done until a male specimen was collected in July 2005, and the identity of this lycaenid was then confirmed to be *S. nasaka*.

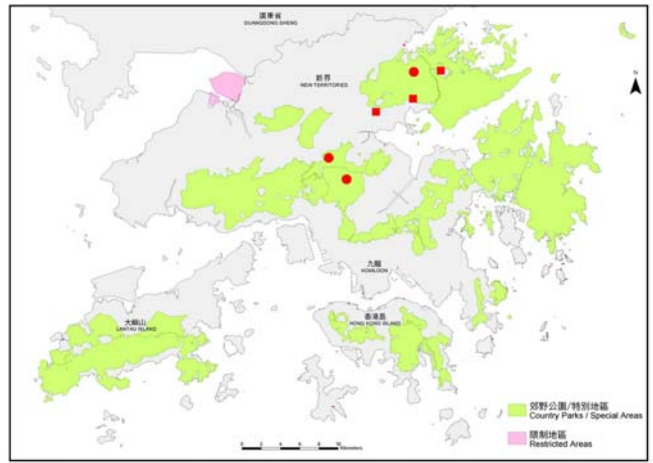


Fig.1. Distribution of *S. nasaka* ssp. in Hong Kong. (Circle denotes record with voucher specimen; square denotes photograph record from Yim, Chong, Yiu & Yiu).

It is worth noting that previously published and illustrated records of this species in China appear to be all female (Gu & Chen, 1999; Wang & Fan, 2002; Chou, 1994); the male *S. nasaka* of the race in China is thus illustrated and described here for the first time.

### Materials and Methods

Apart from materials found in Hong Kong, specimens of *S. nasaka amba* (Kirby, 1878) from the Malay Peninsula were used in this study for comparison. Voucher specimens will be deposited in the Agriculture, Fisheries and Conservation Department, Hong Kong (AFCD).

Comparative materials examined:

*Sinthusa nasaka amba* (Kirby, 1878)

1♀, Malaysia, Perak, May 2005; 1♂1♀, same loc., June 2005, coll. local collector (1♂ genitalia dissected: YFL Iy0007).

The genitalia of male specimens were prepared using the following procedures. The abdomen was first removed and placed in 10% NaOH under room temperature for 24 hrs to dissolve the soft tissue. It was then transferred to 70% ethanol and dissected under a stereomicroscope. The dissected genitalia were preserved in 70% ethanol and labelled properly for further study.

### Result

Having compared the male genitalia of specimens from Hong Kong and the Malay Peninsula, no major difference was found and their similarities reveal their conspecific relationship.

### Specimens examined

*Sinthusa nasaka* (Horsfield, 1829) ssp.

3♀, Pat Sin Leng Country Park, 200m, 22/23 June 2004, coll. W. K. Leung & W. L. Hui (AFCD); 1♀, same loc., 26 June 2004, coll. Y. F. Lo & W. L. Hui (AFCD); 1♀, Tai Mo Shan Country Park, 400m, 09 July 2004, coll. Y. F. Lo & W. L. Hui.

Hui; 1♂, Shing Mun Country Park, 500m, 23 July 2005, coll. W. L. Hui (genitalia dissected: YFL 1y0001).

### Diagnostic Features of *Sinthusa nasaka* ssp. in Hong Kong

Male (Figs. 2 & 3)

Forewing: termen, costa slightly convex, dorsum convex at base. Ground colour of upperside oily blue. Ground colour of underside brownish grey. Cell-end stripe forming double pale brown bars. Post-discal band brownish orange bar outwardly edged with thin white line, running from  $R_{s2}$  toward  $CuA_2$ ; submarginal and marginal bands faint, only slightly darker than ground colour. Hindwing: wing tail at the end of  $CuA_2$ ; tornal lobe present but small. Ground colour of upperside bright blue, tornal lobe with orange and metallic blue scaling. Ground colour of underside brownish grey.



Fig. 2. Upperside of *S. nasaka* ♂: Shing Mun Country Park, 500m, 23 July 2005, coll. WL Hui



Fig. 3. Underside of *S. nasaka* ♂: Shing Mun Country Park, 500m, 23 July 2005, coll. W.L. Hui

Cell-end stripe forming double pale brown bars. Post-discal spot forming brownish orange broken bar edged with black and white line on both sides, from  $Sc+R_1$  towards  $CuA_2$  and a "V" shaped band forming in space  $CuA_2$  and 2A. Submarginal and marginal bands zigzag shaped and barely seen. A dark

spot enclosed by orange circle in space  $CuA_1$ , orange and metallic blue patch in space  $CuA_2$ . Tornal lobe dark brown with metallic blue scaling.

Male secondary sexual characters: scent brand across the origin of  $R_s$  on upperside of hindwing and a hair tuft on the forewing underside dorsum.

Male genitalia: (Fig. 4) typical form of the genus. Valvae long and narrow. Phallus long, a distant pointed process at the dorsal posterior end of aedeagus.

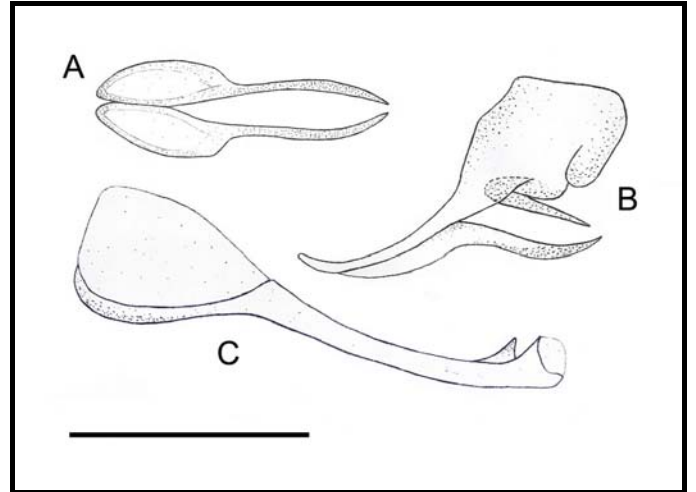


Fig. 4. Male genitalia of *S. nasaka* ssp. in Hong Kong: A. ventral view of valvae; B. lateral view of 9<sup>th</sup> + 10<sup>th</sup> sclerites; C. lateral view of phallus. Scale bar = 1mm.

Female (Figs. 5 & 6)



Fig. 5. Upperside of *S. nasaka* ♀: Pat Sin Leng Country Park, 200m, 22/23 June 2004, coll. W. K. Leung & W. L. Hui

Forewing: termen, costa slightly convex, dorsum straight. Ground colour of upperside dark brown. Ground colour of underside silvery grey. Wing patterns similar to male, except for more pronounced submarginal and marginal bands. Hindwing: wing tail at the end of  $CuA_2$ ; lobe present but small. Ground colour of upperside dark brown, tornal lobe

with orange and metallic blue scaling. Ground colour of underside silvery grey. Wing patterns similar to male, except for darker submarginal and marginal bands.



Fig. 6. Underside of *S. nasaka* ♀: Pat Sin Leng Country Park, 200m, 22/23 June 2004, coll. W. K. Leung & W. L. Hui

#### Other information

Immature biology: There is no information on immature stages of this species.

Occurrence: It is undoubtedly a multivoltine species. Adults are found between June and July; there are also photograph records taken in April and November (Yim, Chong, Yiu & Yiu, unpublished photograph records).

Distribution: China (Hong Kong, Fujian, Guangxi and Hainan), Sikkim to Burma, Thailand, Laos and Sunderland (Eliot, 1992; Osada et al, 1999; Pinratana, 1981; Wang & Fan, 2002; Xu & Jiang, 2001). In Hong Kong, it has scattered a distribution in the central and north-eastern New Territories.

#### Discussion

*S. nasaka* was once misidentified as *Rapala refulgens* in Chou (1994), but an amendment was made in the revised edition (Chou, 1999) subsequently. Meanwhile, the record of *Rapala refulgens* in Southern China (Bascombe, 1995) was probably an error adopted from Chou (1994).

*S. nasaka* inhabits woodlands and dense scrublands. It has rapid flight and often settles on vegetation for short periods. Males are rarely seen while females appear to be more common. Adults are attracted to flowers and were observed taking nectar from *Mikania micrantha* and *Litchi chinensis* (Yim & Yiu, unpublished photograph records). With *S. chandrana*-like habit and *Rapala manea*-like appearance, *S. nasaka* behaves like a combination of these two fairly common species. This probably explains why it has not been reported in earlier studies even though it has a fairly wide distribution. In fact, after examining albums of several amateur photographers, *S. nanaka* was found in some of their previous photographic records, and these provided additional

information on the distribution of this newly recorded butterfly.

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## A new record for Hong Kong and China of a Polistine wasp of the genus *Ropalidia* : *Ropalidia mathematica* (Vespidae: Polistinae: Ropalidiini)

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The eusocial wasp *Ropalidia mathematica* (Smith, 1860) has been recorded from various localities in Hong Kong by the author. This paper is a short description of this species. *Ropalidia* species are distinctive from other eusocial wasps by the petiolate 1<sup>st</sup> gastral segment, the fused and bulbous 2<sup>nd</sup>