

***Parantica sita niponica* (Lepidoptera: Nymphalidae) migrated from Japan
to Hong Kong, southern China in 2013**

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2013年に日本から香港へ移動したアサギマダラ（鱗翅目：タテハチョウ科）

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抄録：アサギマダラは日本で季節的な長距離移動を行い、時には台湾、韓国、中国大陸まで移動することもある。日本で標識されたアサギマダラの♂が2013年に香港で再捕獲され、30日以内に約2000キロを移動したことがわかった。これは日本から香港へのアサギマダラの移動の2例目で、それについて詳しく報告する。

Abstract: Chestnut Tiger Butterfly, *Parantica sita niponica* (Lepidoptera: Nymphalidae) is known to undergo seasonal migration within Japan and sometimes moved to Taiwan, Korea and central China. Here, we report a male chestnut tiger marked and released in Japan was later found in Hong Kong. This individual travelled at least 2000km within 30 days. This is an additional report of *P. sita niponica* moved from Japan to Hong Kong.

Key Words: Chestnut Tiger Butterfly; *Parantica sita niponica*; migration; mark-release-recapture; Hong Kong; Japan.

Chestnut Tiger, *Parantica sita* (Kollar, 1844) (Lepidoptera: Nymphalidae: Danainae) distributed throughout East Asia and Southeast Asia while subspecies *P. sita niponica* (Moore, 1883) distributed in Japan and Taiwan (Lang, 2012). With the aid of mark-release-recapture technique, this subspecies is revealed to undergo seasonal migration in the Oriental region in which migrating northward in spring and southward in autumn (Miyatake *et al.*, 2003; Sato, 2007; Kanazawa *et al.*, 2012). One of its longest migration records within Japan is travelling up to 2245 km within 86 days (Oshima, 2008). In recent years, Chestnut Tiger marked and released in Japan are also recaptured in Taiwan, Korea and China revealing its long-distance migration between Japan and neighboring continents (Choi *et al.*, 2010; Yu, 2011; Kanazawa *et al.*, 2012, Kanazawa *et al.*, 2015). Here, we report a movement of Chestnut Tiger to Hong Kong, southern China which is previously marked and released from Yamaguchi Prefecture, Japan. It is an additional movement record of this species between Japan and

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Fig. 1. The photograph of marked Chestnut Tiger taken on 18th October 2013 in Japan.



Fig. 2. The photograph of marked Chestnut Tiger taken on 16th November 2013 in Hong Kong.

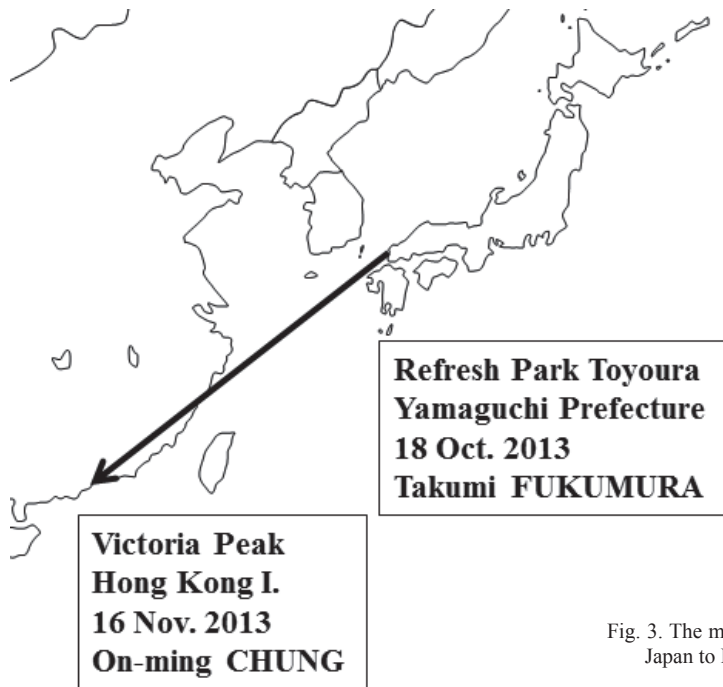


Fig. 3. The migration of marked Chestnut Tiger from Japan to Hong Kong in 2013.

southern Chinese continent.

On 18 October 2013, a male Chestnut Tiger visiting flowers of *Eupatorium* sp. was captured and marked by Takumi Fukumura, one of the authors, at Refresh Park Toyoura in Shimonoseki City, Yamaguchi Prefecture (N34°08'02" E130°55'56", alt.50m). This individual was marked with date of capture and identification number on the ventral side of right forewing and hindwing, and then was photographed and released (Fig. 1). After 29 days on 16 November 2013, On-ming Chung found and photographed this marked individuals at the junction of Hatton Road and Harlech Road, Victoria Peak in Hong Kong Island (N22°16' 24" E114°08'20", alt. 380m) (Fig. 2), which is about 2000 km south-west of the capture site in Japan. This individual was resting on grass in shaded woodland along the hiking trail. Only the markings "TAF" and "RPT" were recognized in the photograph. TAF is personal sign of Fukumura and RPT means Refresh Park Toyoura. Fukumura marked more than 3700 individuals as RPT during autumn 2013. It has been recognized finally with marks of "TAF 5045 RPT 10/18" after collation work to these photographs. This individual underwent southward movement in autumn within 30 days from Japan to Hong Kong, which matches with the general direction and migration time of Chestnut Tiger. The distance travelled is comparable to previous longest migration record within Japan (Oshima, 2008). This is an additional movement record of Chestnut Tiger from Japan to Hong Kong. Prior to this, there is only one record of Chestnut Tiger travelled from Wakayama Prefecture, Japan to Deep Water Bay Valley, Hong Kong (Kanazawa *et al.*, 2015).

Migration records exist for the subspecies from Japan to Taiwan as well as central China. Up to 2008, a total of 12 migration records between Japan and Taiwan are documented (Yu, 2011). In addition, a Chestnut Tiger was found to move from Japan to central China in 2006 (Kanazawa *et al.*, 2012). Both these places are

possibly important migration mid-points for Chestnut Tiger. Hong Kong locates near the border of distribution range of both subspecies *nipponica* and *sita*. Previously it was believed that only subspecies *sita* present in Hong Kong (Bascombe *et al.*, 1999; Young *et al.*, 2008). This species is considered locally rare in Hong Kong (Chan *et al.*, 2011) and could be seen in around ten localities such as Tai Po Kau and Deep Water Bay during its flight period, from September to June (Young *et al.*, 2008). If seasonal migration of Chestnut Tiger from Japan to Hong Kong is confirmed, the distribution range or the taxonomic identity of subspecies of *P. sita* may be revised. It is confirmed that there is high gene flow between the populations of Chestnut Tiger in Taiwan and Japan (Yu, 2011). Whether there is gene flow between the populations in southern China and Japan is worth to be investigated.

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