What is true *Chelonia alba* Bremer et Grey, [1852]? (Lepidoptera, Arctiidae)

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Abstract Based on examination of the lectotype, *Chelonia alba* Bremer et Grey, [1852] is synonymized with *Spilosoma robustum* Leech, 1890. *Diacrisia kikuchii* Matsumura, 1927, based on the male genitalia structure, is downgraded to the subspecies of *Spilarcia alba* (=*robustum*). The correct name of the former *Spilarcia alba* auct. is *S. rubidus* (Leech, 1890) (=*leucopterus* Alpheraky, 1897).

*Chelonia alba* Bremer et Grey, [1852] was described on one male and two females from the region of Beijing (Bremer et Grey, [1852]; Dubatolov, 1996a, 1996b), and for a long time it was considered as a senior synonym of *Dionychopus rubidus* Leech, 1890 and *Spilosoma leucoptera* Alpheraky, 1897. Unfortunately, nobody paid any attention to the definite character from the description (fig. 1): "...thorace albo, punctis nigris duobus; ...". This is a nice distinctive character of quite another species described as *Spilosoma robustum* Leech, 1899. The lectotype of *Chelonia alba* Bremer et Grey, [1852] was designated in the Zoological Institute (St.-Petersburg, Russia) collection by Dubatolov (1996a, 1996b) in 1994, but he didn't notice at that time the clear specific differences between the latter and *Spilosoma leucoptera* Alpheraky, 1897 (Fig. 2). Only this year, after examination of the male genitalia characters of the lectotype (Fig. 4), it became clear that they are quite different species. A review of these two species is given below.

*Spilarcia alba* (Bremer et Grey), stat. rev. (Figs 2–7)

*Chelonia alba* Bremer et Grey, [1852]: 64.


*Diacrisia robusta*: Hampson, 1901: 257, 269, pl. 44, fig. 14; Strand, 1919: 217.

*Spilarcia robusta*: Seitz, 1910: 86, fig. 15c; Daniel, 1943: 698-700, fig. 10 (genitalia), pl. 21, fig. 4, Fang, 1982: 215, pl. 69, fig. 1592; Fang, 1985: 56, pl. 5, fig. 76; Fang, 2000: 438, fig. 312 (genitalia), pl. 18, fig. 1

*Diacrisia robusta hainana* Rothschild, 1910: 123.

*Spilarcia robusta tapaihoni* Daniel, 1943: 700, pl. 20, fig. 22.

Material. China: 1 ♀ (lectotype), Peking (ZIN); 2 ♀ (paralectotypes), [Beijing vic.], Tatarinoff leg. (ZIN); 1 ♂, Shaanxi, Tai bai shan Mts., Haozhenzi, h=1600 m, 30. VII. 1998, S. Murzin leg. (coll. V. Murzin, Moscow); 1 ♀ 1 ♂, W-Guangxi, Doukongpo, 1700 m, Xiling county, VII 2002, Li et al. leg. (SZMN). 1 ♀ 1 ♂, Guangdong, Shaoquan, Nanling 1100m, 27. *Chelonia alba*. C. antennis nigris; capite albo; thorace albo, punctis nigris duobus; abdomine supra sanguineo; superne et a latere punctis nigris, albo-annulatis; subitus corpore albo, punctis lateralis nigris, pedibus sanguineis; alis omnibus albis, puncto mediano nigro. Expans. alar. antic. unc. 2 1/2.

Fig. 1. Original description of *Chelonia alba*.
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Distribution. China: Beijing (Bremer, Grey, [1852]), Sichuan (Leech, 1899), Hainan (Rothschild, 1910), Shaanxi, Shanghai, Hunan, Zhejiang, Fujian (Daniel, 1943), Shandong, Jiangsu, Jiangxi, Guangdong (Fang, 1982), Yunnan (Fang, 1985), Hubei (Fang, 1992), Hebei (Fang, 1993), Guangxi, Guangdong. South Korea: Jeju Is. (Okamoto, 1924; Nam, 1985).

Antennae black, with very short branches. Head and thorax yellowish-white, tegulae with a distinct black spot. Abdomen rose-red, with a dorsal row of black spots. Wings yellowish-white, fore one with a black spot on fore end of discal vein in the lectotype, while in the studied female paralectotype fore wings lacking any pattern. Sometimes there are traces of an oblique row of spots, which are larger at hind margin, one more black spot may appear at basal 1/3 of vein A, just before it. Usually, there are no costal spots; if pre-discal costal spot present, it is located slightly proximal to discal vein. Hind wings without any pattern in the male lectotype, while in the female paralectotype there is one black discal spot. Sometimes there are few submarginal spots, better visible in tornal (anal) angle.

Male genitalia (Figs 14–17). Valva with short and broad apical processes. Moreover, it is somewhat twisting. Subapical process is also short, broad and faintly isolated. Aedeagus
with two sclerotized plates on apex; the ventral plate consists of strong spine-like cornuti (Fig. 18).

**Spilarcxia alba kikuchii** (Matsumura), stat. rev. (Fig. 8)

*Diacrisia kikuchii* Matsumura, 1927: 54-55, pl. 4, fig. 26.

Material. China, Taiwan: 2 ♂, Nantou Hsien, Nan shan chi, 18-23. IV. 1976, M. Kuboki leg. (SZMN); 2 ♂, Nantou Hsien, Poli, anonymous leg. (SZMN); 2 ♂ 1 ♀, Nantou Hsien, Lushan-spa, 28. IV. 1984, H. Yoshimoto leg.; 1 ♂, Taipei Hsien, Wurai, 1. IV. 1977, Y. Kishida leg.

Distribution. Taiwan.

Wings with the pattern on average better developed than in the nominotypical subspecies, just as in its most coloured specimens. The main difference is the position of the pre-discal costal spot, which is located slightly distal to the discal vein.

Male genitalia (Figs 19–20). Valva shape does not differ from the nominotypical subspecies. There are also two sclerotized plates on the aedeagus top, but the ventral plate consists of
weaker spine-like cornuti (Fig. 21).

**Spilarctia rubida** (Leech), sp. rev. (Figs 9–13)

*Diocychopus rubidus* Leech, 1890: 111.

*Spilosoma leucoptera* Alpheraky, 1897: 170, pl. 10, fig. 8.

*Diacrisia alba*: Hampson, 1901: 257, 268; Strand, 1919: 168.

*Spilarctia alba*: Seitz, 1910: 88, fig. 15h; Fang, 1985: 38, pl. 2, fig. 30; Fang, 2000: 428-429, fig. 307 (genitalia), pl. 17, fig. 14.

*Spilarctia album*: Daniel, 1943: 700, figs 11-12 (genitalia), pl. 21, fig. 5.

Material. China: 1 ♀ (lectotype of *rubida* Leech, 1890, designated here), [Hubei], Chang Yang, July 1888, A.E. Pratt coll. (BMNH); 2 ♂, Heilongjiang, Tili, Pingdin Mt., h=1400 m, VI. 2001, anonymous leg. (SZMN). 1 ♂, Guangdong, Shaoguan, Nanling 1100m, 1. VI. 2000, Taiwan: 2 ♂, Chiayi Hsien, Shihzulu 1520m, 5-6. V. 1984, H. Yoshimoto leg., 1 ♂, Nantou Hsien, Puli, 1 ♂, Nantou Hsien, Wushe, Korea: 1 ♀ (type of *leucoptera* Alpheraky, 1897), [about 40 verst into wild mountains from Gensan], 1894, [Yu. & A.] Jankowsky leg., 1 ♂, Pungso, 29. VI. 1984, 2 ♂, Mt. Solak, 4-8. VII. 1984, S. Saito leg.

Distribution. Korea (Alpheraky, 1897); China: Hubei, Sichuan (Leech, 1899), Zhejiang (Reich, 1937), Shaanxi (Daniel, 1943), Hebei, Jiangxi, Fujian, Hunan (Fang, 1982), Yunnan (Fang, 1982), Taiwan (Kōda, 1988), Guizhou (Fang, 1992), Jilin, Shanxi, Henan, Guangxi, Guizhou (Fang, 2000), Heilongjiang, Guangdong.

Antennae black with moderate branches. Head and thorax pure white, tegulae without black spots. Abdomen bright red, with a row of very small black dorsal spots. Wings pure white, fore one with few black spots behind hind edge of discal vein, and a small spot at middle part of vein A. Hind wings with a black stroke on fore end of the discal vein, and with few black spots along the external margin.

Male genitalia (Figs 22-24). Valva with long and narrower apical processes than in the former species, without a twisting; subapical process is better defined. Aedeagus with only one sclerotized plate on apex.

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